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ROUTES IN BURMA

ROUTES IN THE NORTHERN SHAN STATES AND THE WA STATES ROUTES "D"



ISSUED BY THE GENERAL STAFF, GENERAL HEADQUARTERS,
INDIA.

CALCUTTA: PRINTED BY THE MANAGER
GOVERNMENT OF INDIA PRESS: 1944

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PREFACE.

Whilst steps have been taken, whenever possible, to verify the information contained in this publication, it has not been possible in the case of many routes to confirm the information by actual reconnaissance carried out by officers.

The data which the book contains are, however, based upon the best information available up to January 1944.

The spelling of place names whenever possible, has been taken from the map, but it must be borne in mind that these names are subject to considerable local variation.

It must be realized that although roads are in some cases described as motorable "In all weathers", such roads, unless they are metalled throughout, are only fit for normal motor traffic. Continuous movement of Heavy M.T. convoys would soon render them impassable. Other factors such as temporary flooding at "Irish bridges", "flood spill ways", on roads which are not bridged throughout, and in mountainous country, landslides, must also be taken into consideration.

In the WA States, at present there are no roads. Data about tracks over which pack transport can move is given. It should be borne in mind that in this territory distances are of little account. Owing to the mountainous nature of the terrain, a march of eight miles may take longer and be more arduous than another of twenty. It is to be noted that in the case of many of the rivers and larger perennial streams, the current is faster in the dry weather than it is during the rains. This is so, particularly, in the case of the

river SALWEEN. In the WA States such bridges as exist are usually made of bamboo and are almost invariably destroyed in the rains.

The future value of this Route Book depends largely upon the co-operation of its recipients both in regard to amendment to the data it already contains, and also to the submission of reports upon routes and tracks, concerning which no information is at present, available. This co-operation is earnestly requested.

All communications concerning this publication should be addressed to—

The Chief of the General Staff,

[G.S.I.(a) (11).]

General Headquarters,

INDIA.

ROUTE BOOK 'D'.

ALPHABETICAL INDEX TO CAMPS.

ABBREVIATIONS.

C.-Camp.

J.C.-Jungle Camp.

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Chayen	.	65	Hopang	.	59
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Chenlong	.	63	Hpatang	.	28
Ching Mau	.	100	Hpa Kio	.	76
Chung Pang	.	18	Hpa Kla	.	97A
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D			Hpangmot	.	84
Dumje	.	23	Hpa Tang	.	28
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			Hsi-Hkao	.	58
			Hsengkiau	.	37
			Hsiao-Ma-Ti	.	24
			Hsi-Bok	.	20
			Hsipaw	.	1, 6, 39, 49, 50
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Kyanigan .	.	43	Man Hpa .	.	60
Kyatpyin .	.	51	Man Hpai .	.	5
Kyaukhlebein .	.	51	Man Hpang .	.	18
Kyaukmaw .	.	52	Man Hsaing .	.	60
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Nam Hsin	.	1	Panghtan	.	49
Namson	.	49	Panghung	.	68
Nam Ti	.	27	Pangkat	.	11
Namtsai Mong, C.	.	75	Pang Kauk Tan, C.	.	77
Namtu	.	7, 9, 11	Pang Kawk Tao	.	77
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Naniu	.	26	Pangkut	.	12
Nanyi	.	88	Panglap	.	76
Naoi	.	61	Panglaw	.	2, 16, 21
Nalem	.	91	Panglom	.	19
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Nasapaw	.	50	Panglong	.	61, 63
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			Wa-Hi		89
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Tanghkan		1
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Tawhsang		47
Tawnghtek		41
Te Moe		93B
Thabekkyin		51
Thondaung		1
Thonze		44B
Tonbo		1
Tonkwa		55

ABBREVIATIONS.

B.F.F.	.	.	.	.	.	Burma Frontier Force.
B.P.	.	.	.	.	.	Boundary Pillar.
Ch.	.	.	.	.	.	Chaung.
C.G.	.	.	.	.	.	Camping Ground.
C.H.	.	.	.	.	.	Circuit House.
Ct. H.	.	.	.	.	.	Court House.
d.b.	.	.	.	.	.	Dak Bungalow.
dis.	.	.	.	.	.	Dispensary.
E.	.	.	.	.	.	East or Eastern or Easterly.
ft.	.	.	.	.	.	Feet.
f.	.	.	.	.	.	Furlong.
h.	.	.	.	.	.	Houses (in villages).
h.h.	.	.	.	.	.	Head-hunters.
hosp.	.	.	.	.	.	Hospital.
i.b.	.	.	.	.	.	Inspection bungalow.
ins.	.	.	.	.	.	Inches.
L.	.	.	.	.	.	Left.
l.b.	.	.	.	.	.	Left bank.
m.	.	.	.	.	.	Miles.
f.f.p.	.	.	.	.	.	Frontier Force Post.
M.T.	.	.	.	.	.	Motor transport.
M.S.	.	.	.	.	.	Milestone.
Mtd. Tps.	.	.	.	.	.	Mounted Troops.
N.	.	.	.	.	.	North or Northern or Northerly.
p.o.	.	.	.	.	.	Post Office.
p.s.	.	.	.	.	.	Police Station.
p.t.o.	.	.	.	.	.	Post and Telegraph Office.
R.	.	.	.	.	.	Right.
r.b.	.	.	.	.	.	Right bank.
r.h.	.	.	.	.	.	Rest House.
r.s.	.	.	.	.	.	Railway Station.
S.	.	.	.	.	.	South or Southern or Southerly.
sig. V/T	.	.	.	.	.	B.M.P. signalling station.
t.h.	.	.	.	.	.	Travellers house.
Tpt.	.	.	.	.	.	Transport.
Tps.	.	.	.	.	.	Troops.
W.	West or Western or Westerly.
yds.	Yards.
1/4 or 1/5	The steepness of the gradient of any slope.

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ROUTES IN THE NORTHERN SHAN STATES AND THE WA STATES.

ROUTE D-1.

WETWUN—KYU-HKOK (on the **BURMA—YUNNAN** Frontier).

Length 239m. 5f. 20 Stages. General Direction N.E.

MANDALAY—KYU-HKOK 293m. 5f.

MAYMYO—KYU-HKOK 252m. 7f.

NOTE.—For continuity the whole route from **MANDALAY** to **KYU-HKOK** is reported upon. Five stages, i.e., **MANDALAY—WETWUN** (54m.) from Routes "H" Upper Burma are included as introductory stages and printed at the beginning of this Route.

WETWUN—KYU-HKOK.

Epitome—

This route forms part of the "BURMA ROAD" and is metalled throughout and suitable for M.T. all the year, tarred width being 10 ft. with 4 ft. gravelled berms on each side of the road, thus making an average total width of about 18 ft. Some of the more hilly sections are very tortuous with gradients up to 1 in 8 maximum. The road is suitable for lorries up to 4 tons capacity.

The route passes through mountainous country.

The road is bridged throughout.

There is an extremely dangerous blind tunnel under the railway between **LOIKAW** and **NAMHSIM** in Stage 7. Very careful driving is necessary here.

HSIPAW is unhealthy, with a malignant form of malaria in the rains.

C.G.—For two Bns. (average) throughout.

Water—Plentiful throughout.

Fuel—Plentiful throughout from jungle.

Supplies—Negligible except at **HSIPAW**, **LASHIO** and **HSENWI**, where large quantities can be collected with previous notice.

FIVE INTRODUCTORY STAGES FROM ROUTE BOOK
"H" UPPER BURMA—(Route H.-1).

MANDALAY—WETWUN.

Length :—54m.

5 Stages.

A mountainous road. Some difficult hairpin bends and gradients. On the hill sections caution is necessary and up traffic has the right of way. These stages were considered so dangerous that lorries and buses were prohibited from using this road.

ROUTE D-1—*contd.*

MANDALAY.

FORT DUFFERIN (i.b., c.h., Barracks and Quarters).

C.G.—In grounds of the fort. Ample.

Water—From moat and wells.

Fuel

Fodder { —Available. Notice required for large quantities.

Supplies—Plentiful.

MANDALAY BY PASS. (1½ miles).

To connect the RANGOON road with the LASHIO road so as to by-pass MANDALAY Town. It joins the LASHIO road at mile 5 at AUNGBINLE.

Stage 1.

MANDALAY—TONBO.

12m. 3f. Metalled road running E. and S.E. through paddy fields to m/s 9/6, then through dry cultivation and scrub.

5m. Passes AUNGBINLE (198 h.) Road right to ARAKAN Pagoda.

6m. 6f. Passes THAMADAW (98 h.)

9m. 6f. Passes KYAUKMI (124 h., i.b.).

12m. 3f. **TONBO** (r.s., i.b., 80 h., malarious).

C.G.—(a) For 1 Bn. in i.b. compound and on open ground between it and the road.

(b) For 3 Bns. in fields 300 yards N.W. of i.b. and on far side of stream.

(c) Old Government *C.G.* at 12m. 1f. L. of road, difficult to locate.

Water—Plentiful—

(a) From stream parallel to road, liable to contamination.

(b) Better water from stream at m/s 13/4.

Fuel—Unlimited.

Fodder—Grass and grazing scarce.

Supplies—Nil.

12m. 3f. Lime kilns and stone quarries at TONBO.

Stage 2.

TONBO—NYAUNGBAW.

10m. of. Level crossing (railway) and crosses the SEDAW stream by steel truss bridge.

1m. of. by steel truss bridge.

6m. of. Crosses stream (in deep nullah—sandy bed—difficult approaches—unfordable in rains) by iron bridge (135 ft. × 30 ft.).

9m. of. Watering place.

10m. of. **NYAUNGBAW** (30 h., i.b., p.s.).

C.G.—(a) 7 acres on R. of road.

(b) For 1 Bn. on open ground L. of road.

(c) Government *C.G.* of 6½ acres on L. of road beyond village at 22m. 5f. difficult to locate.

ROUTE D-1—contd.

22m. 3f.

(d) For 150 men in *kyaung* and *zayat*.

(e) For 1 Bn. in paddy fields W. of i.b.

(f) For 2 Coys. in fields N. of i.b.

Water—Plentiful from spring 200 yds. S.E. of i.b. (June-March) for 1 Bn. only March-June.*Fuel*—Unlimited.*Fodder*—Scarce.*Supplies*—Nil.

Stage 3.

NYAUNGBAW—THONDAUNG.

10m.

Road climbs gradually through scrub jungle.

6f.

Road L. to ZIBINGYI r.s.

2m.

Upper HILL SECTION.

5m.

1f.

Passes PYINTHA (75h.).

9m.

5f.

Top of HILL SECTION.

10m.

THONDAUNG (108h., r.s.).*C.G.*—(a) Govt. C.G. (6 acres) R. of road 3m. into Stage

32m. 3f.

4—difficult to locate.

(b) For 1 Bn. near *kyaung* 300 yds. N. of i.b. with clearing.

(c) For 1 Bn. in p.s. compound and neighbouring ground.

(d) For 150 men in *kyaung* and *zayats*.*Water*—(a) Unlimited from spring 300 yds. S.W. of p.s.(b) For 2 Bns. from spring 100 yds. N. of *kyaung*.

(c) From spring at Govt. C.G.

Fuel—Unlimited from jungle.*Fodder*—Grazing; scarce.*Supplies*—Nil.

Stage 4.

THONDAUNG—MAYMYO.

8m. 3f.

Road runs over undulating country with a few fairly steep gradients. Tps. could generally operate off the road.

6m. 5f.

Road L. to ANISAKAN (187h. r.s., airfield).

8m. 3f.

MAYMYO (3 i.b., p.t.o., r.s., p.s., British and Native Infantry lines, Hospitals).

40m. 6f.

Water—Unlimited—piped supply and numerous streams.*C.G.*—Unlimited in barrack areas.At **MAYMYO** this route joins Route D-44.

Stage 5.

MAYMYO—WETWUN.

13m. 2f.

A metalled road fit for all M.T.

9m.

Passes through open scrub country.

9m. 4f.

A hairpin bend.

Crosses KELAUNG *chaung* (108 ft. × 2 ft.—rocky bed—unfordable in rains), by masonry bridge (162 ft. × 12 ft).

There is a difficult ford 50 yds. N. of bridge.

WETWUN (p.o., r.s. and bazaar).*C.G.*—(a) For 2 Bns. R. of road at 10m.

ROUTE D-1—contd.

54m. 0f.

- (b) For 1 Bn. in open ; tree jungle—with clearing.
- (c) For 1 Coy. S. of bazaar.
- (d) For 1 Bde.—in paddy fields in dry weather only.
- Water*—Unlimited from streams.
- Fuel*—Unlimited from jungle.
- Fodder*—Plentiful on hills.
- Supplies*—Negligible—5th day bazaar.

WETWUN is a long straggling village with houses on either side of the road. The railway station is at the N. end of the village. There are limekilns near the station with steep limestone cliffs to the W.

There is a Power House at WETWUN situated on the KELAUNG stream about three miles from the village. This supplies MAYMYO with electricity. There are two rice mills near WETWUN.

The boundary between BURMA and the NORTHERN SHAN STATES runs through the N. end of the village at mile post 56 on Route D-1.

There are numerous cart roads running N. and W. from WETWUN. (See Route D-44D). These cart roads are all jeepable except after heavy rain.

HERE THE ROUTE CROSSES THE BORDER INTO THE NORTHERN SHAN STATES AND BECOMES D-1.

Stage 1. WETWUN—ONMATHI.

11m. 4f. Road metalled, wheel tracks tarred. Passes through cultivation and fairly open jungle to

5m. 4f. LUNG-YAW, thence through dense country and tung plantations on either side of the road to

6m. 3f. BANBWE (Not PANPWE as shewn on the map i.b., bazaar). The tung plantations are intersected with tracks (jeepable), and afford good cover except in the cold weather. (See Routes D-44D, D-44F, D-44G.)

At BANBWE the road crosses the BANBWE stream—rocky and sandy bed—fordable with difficulty in rains by wooden bridge.

Between BANBWE and ONMATHI there are 17 other streams, with wooden bridges all unfordable in the rains.

The i.b. at ONMATHI has been pulled down and rebuilt at BANBWE.

At ONMATHI Route D-45A branches L. to HSUM HSAI railway station and KALAGWE.

11m. 4f.

ONMATHI. A few scattered houses. To N. and W. Large open spaces and paddy cultivation.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Good grazing.

Supplies—Nil. Limekilns in neighbourhood.

ROUTE D-1—contd

Stage 2. ONMATHI—NAWNGHKIO.

- 12m. 4f. A metalled road, wheel tracks tarred. Passes through paddy fields and dense jungle.
- 4m. 0f. Level crossing.
- 4m. 6f. ONMAKA railway station.
- 5m. 0f. Enters the NAWNGHKIO Forest Reserve. Dense forest—mountainous country. Large trees—rocky limestone outcrops.
- 5m. 6f. Level crossing.
- 7m. 0f. Leaves the NAWNGHKIO Reserve and runs through dense jungle with a few.
- 12m. 4f. Open swamps to NAWNGHKIO (i.b., Residence of a TAUNGBAING, malarious).
- 24m. 0f. At the entrance to NAWNGHKIO village, a metalled road leaves L. to NAWNGHKIO railway station (6f.) To the W. of the village there are large open areas of grassland.
- Water*—Unlimited from spring N. of i.b., and village wells.
- Fuel*—Plentiful.
- Fodder*—Good grazing.
- Supplies*—Large quantities of potatoes grown in neighbourhood. Herds of cattle.
- At NAWNGHKIO this route joins routes D.-45 and D.-48A.

Stage 3. NAWNGHKIO—NAWNGPENG.

- 16m. 4f. Road similar to previous stage. A mountainous section between 1m. and 10m. which is very difficult for M.T. throughout the year. Many hairpin bends.
- 1m. 0f. Level crossing.
- 7m. 0f. After a very steep descent the road crosses the NAM PANHSE stream (90 ft. wide, unfordable, swift current, clear water, rocky bed) by iron bridge (180 ft. long by 12 ft. wide). This is called the GOKTEIK ROAD BRIDGE. Here are precipitous limestone cliffs.
- The road then climbs very steeply till it reaches the top of the gorge where it runs along side the railway but does not cross it, and for the last four miles into NAWNGPENG runs through undulating country.
- 15m. 0f. Route D.-41 branches R. to NAMLAN.
- 16m. 4f. NAWNGPENG (i.b., r.s.)
- 40m. 4f. There are large open spaces round this village.
- Water*—Plentiful from streams and wells.
- Fuel*—Plentiful.
- Fodder*—Good grazing.
- Supplies*—Herds of cattle. 5th day bazaar.

Stage 4. NAWNGPENG—PYAUNGAUNG (SAKANTHA).

- 9m. 4f. Road similar to previous stage. Passes through open jungle.
- 6m. Level crossing.

ROUTE D-1—contd.

8m. 6f. Road L. through village to the palace of the SAWBWA and to.

50m. SAKANTHA Railway Station.

PYAUNGAUNG (SAKANTHA) is an important village in HSIPAW subdivision of HSIPAW State. SAKANTHA is on the W. side of the railway and is the summer residence of the SAWBWA. There is a theatre and numerous large buildings capable of housing about one Bn. There are large areas of open land and the race course lies E. of the place.

Water—Unlimited.

Fuel—Plentiful.

Fodder—Good grazing.

Supplies—Nil.—5th day bazaar.

From SAKANTHA Route D-46 branches L. to NAMSAW and MONG LONG.

Stage 5. PYAUNGAUNG—LOIKAW.

10m. Road similar to previous stage. Passes through light scrub and tree jungle to 5m. 4f. and thence through thicker jungle.

5m. 4f. Route D.-42 L. to KYAUKME (r.s., 2m. distant).

Route D.-42 R. to MAN HTAM.

10m. LOIKAW (6h., r.s.)

60m. *Water*—Unlimited from streams.

Fuel—Plentiful.

Fodder—Good grazing.

Supplies—Nil. Small quantities of supplies from KYAUKME.

Stage 6. LOIKAW—NAM HSIM.

9m. Road similar to previous stage but more dangerous—precipitous in places. Passes through dense jungle.

6m. 4f. Level crossing.

7m. 2f. Blind tunnel under railway. This is a very dangerous place; many smashes have occurred here—the tunnel is situated at a bend in the road. Very careful driving is necessary.

8m. 0f. Crosses NAM HSIM (swift current—rocky bed—easy approaches) by wooden bridge (270 ft. long by 10 ft. wide). The river is fordable in dry weather 100 yards above bridge.

9m. NAM HSIM. (12h.).

Water—Unlimited.

Fuel—Plentiful.

Fodder—Grass—nil. Good grazing for one Bde.

69m. *Supplies*—Nil.

Stage 7. NAM HSIM—HSIPAW.

8m.

2m. BAWGYO, Large village, railway station, large open spaces.

3m. Level crossing. Open cultivated fields.

4m. Feeder of MYITGNE crossed by wooden bridge.

ROUTE D-1—contd.

- 6m. Large areas of paddy cultivation. Feeder of MYITNGE crossed by wooden bridge.
- 7m. 5f. Level crossing. Railway Station on L.
- 8m. HSIPAW.
- 77m. **HSIPAW** (p.t.o. r.s., i.b., a large town, C.H. H.Q. of HSIPAW STATE and residence of Asst. Supt. N.S.S.).
Water—Unlimited—from river (but it bears a bad reputation).
Fuel—Unlimited—from jungle.
Fodder—Unlimited—grazing in paddy fields. Grass scarce.
Supplies.—A large bazaar capable of supplying 1 Bn. with vegetables.
 Very malarious.
 At HSIPAW this route joins D.-6.
 From HSIPAW Route D.-49 branches to NAMHSAN.
 Route D.-50 branches to NAMTU.

Stage 8. HSIPAW—KONGHSA.

- 11m. 4f. For the first 8 miles 3f. this route coincides with Route D.-6 Stage 1.
- 1m. Crosses NAM TU (450 ft. wide—unfordable) by a steel girder bridge. The road then runs through teak forest and at approx.
- 1m. 4f. A mule track branches off S. to SEMON on the NAM TU River.
- 1m. 6f. At 1m. 6f. a stream is crossed by a wooden bridge and shortly afterwards, a large open space—the HSIPAW racecourse—is passed on the L. From 3m. to 5m. 4f. the road runs parallel to the NAM TU river—almost touching it in places—with steep mountainous jungle on the R.
- 3m. 0f. Bridge over NAWNGKAW stream (50 ft. × 15 ft. unfordable).
- to Road runs E. parallel to NAWNGKAW stream.
- 5m. 4f.
- 6m. 2f.
- 6m. 2f.
- 8m. 0f.
- 8m. 3f. Route D.-1 continues straight on N.E. to LASHIO.
 Route D.-6 branches R. to LOILEM and TAUNGGYI.
- 11m. 4f. **KONGSHA.** Large open spaces near village.
Water—Ample from stream (muddy).
- 88m. 4f. *Fuel*—Plentiful.
Fodder—Grazing between 10m. and 10m. 6f.

Stage 9. KONGHSA—SE-EN.

- 11m. Metalled road. Fit for light M.T. throughout the year. Passes through dense jungle.
- 11m. Crosses NAM MA (150 ft.—unfordable) by suspension bridge. The NAM MA river is here very deep and narrow. Road to r.s. two miles W.
- 99m. 4f. **SE-EN** (13 h., i.b., r.s.).
C.G.—(a) For 2 Coys. in i.b. compound.
 (b) For 2 Bns. ¼m. E. of river in paddy fields. (Dec. May.)

ROUTE D-1—contd.*Water*—Unlimited—from river.*Fuel*—Unlimited—from jungle.*Fodder*—Very scarce.*Supplies*—Nil.**Stage 10. SE-EN—NAWNGMAWN.**

10m. 4f. A metalled road. Fit for light M.T. throughout the year.
 Passes through dense country.

8m. Road L. to MANSAM FALLS (Power Station) 8m. 4f.

Suitable for light M.T. in dry season.

110m. **NAWNGMAWN** (20 h.).

C.G.—(a) For 1 Bn. in kyaung compound.

(b) For 1 Bn. W. of kyaung with clearing.

(c) For 150 men in kyaung and zayat.

Water—Unlimited—run-off from small stagnant lake
 300 yds. S.W. of kyaung by bamboo pipes; appears to be
 good.

Fuel—Unlimited from jungle.

Fodder—Sufficient for 2 Bns.

Supplies—Nil.

Stage 11. NAWNGMAWN—LASHIO.

13m. 4f. A metalled road. Passable to M.T. throughout the year.
 Passes through thick scrub jungle to

6m. 4f. Here route D.-4 branches to R. Country becomes more
 open.

7m. Road L. to HSINKAI (6m.) very thick country. Suitable
 for light M.T. in dry season.

123m. 4f. **LASHIO** (Circuit House, i.b., p.t.o., r.s., 3m. from p.s.,
 residence of Supt. N.S.S. Here is the terminus of MANDA-
 LAY—LASHIO branch of the Burma Rlys.: airfield.

Water—Good supply with stand pipes.

Fuel—Unlimited—from jungle.

Fodder—Jungle grazing unlimited—grass scarce.

Supplies—All requirements could be collected with pre-
 vious notice. 5th day bazaar.

The railway station at LASHIO is 1m. 3f. N. of the town
 on Route D.-7.

Route D.-3 branches to KUNLONG Ferry.

Route D.-7 branches to NAMTU.

Stage 12. LASHIO—HOPOK.

8m. A metalled road passable to M.T. throughout the year.
 Passes through open rolling country.

3m. Passes OLD LASHIO (Road L. to r.s. (2m.).

4m. Crosses NAM YAO (180 ft.—stony bed—just fordable one
 hundred yards above bridge) by steel bridge 200 ft. span,
 capacity 10-ton vehicle (laden). Low level temporary bridge
 could be made in the dry weather.

4m. 3f. Here Route D.-3—R—to MONG YAU (r.h.). Also
C.G. unlimited space and water.

ROUTE D-1—contd.

7m. Country becomes fairly wooded.
 8m. **HOPOK** (2,700 ft.).
 131m. 4f. *Water*—Plentiful—from stream.
Fuel—Plentiful.
Fodder—Obtainable—with notice.
Supplies—Fair amount of paddy with notice. 5th. day bazaar.

Stage 13. HOPOK—MONG LI.

12m. 6f. Road similar to previous stage. Passes over low wooded hills.
 3m. Passes Signal Station L. of road—1m. distant.
 8m. 4f. Passes HONGLIK (Shan—12h.).
C.G.—For 1 Bde.
 12m. 6f. **MONG LI** (Shan 30 h.—2,250 ft.).
 144m. 2f. *Water*—Plentiful from stream near camp.
Fuel—Plentiful.
Fodder—Plentiful.
Supplies—Fair quantity of paddy with notice.

Stage 14. MONG LI—HSENWI.

11m. 2f. Road similar to previous stage—nearly level the whole way. Last 3m. more open.
 9m. Passes HO-TA village and Mule road L. for NAMTU. (Route D.-9).
 Crosses NAMTU by suspension bridge (300 ft. by 25 ft. high). There is a ford 1 mile downstream. Low level temporary bridge would be easy to make in the dry weather.
 11m. 2f. **HSENWI** (THEINNI—i.b., 2,100 ft.—Capital of North HSENWI STATE, 350h.). Large open spaces.
 155m. 4f. *Water*—Plentiful.
Fuel—Plentiful.
Fodder—Good grazing.
Supplies—1,500 baskets of paddy available. Cattle available with notice.
 From HSENWI Route D.-2 branches to KUNLONG Ferry.

Stage 15. HSENWI—KUTKAI.

16m. There are two roads :—
 (a) a metalled road fit for M.T. throughout the year.
 (b) a mule track—fit for marching troops with pack transport.
 The mule track climbs very steeply to the top of the KUTKAI ridge and thence descends over rolling downs to KUTKAI. This track is 13m. 4f. long, thus saving 2m. 4f.
 The metalled road is mountainous at first through fairly open country which soon becomes covered with jungle. Careful driving is necessary.
 0m. 6f. Six furlongs from HSENWI, Route D.-2 branches E. to KUNLONG Ferry.

ROUTE D-1—*contd.*

- 8m. 0f. The road continues mountainous for the first 8 miles and then.
- 10m. 0f. Descends for 2 miles whence it is level to KUTKAI with high mountains to the E.
- 17m. In KUTKAI village the NAM HKAI stream is crossed by a wooden bridge.
- 171m. 4f. **KUTKAI** (i.b., Fort, p.t.o., 4,350 ft. very large open spaces, barracks).
Water—Plentiful.
Fuel—Plentiful.
Fodder—Good grazing.
Supplies—Nil.
 From KUTKAI a road motorable in fair weather branches N.E. to join D.-22 at MONG NGE (*See* Route D.-2 B).
 A cart track (jeepable) leaves KUTKAI S.W. to NAMTU.

Stage 16. **KUTKAI—PANGNIM.**

- 18m. At first this road passes through open country, level and thence climbs through jungle.
- 5m. Crosses small stream.
- 11m. Passes NAM HPAKLUN.
- 13m. Precipitous country; blind corners. Several bad accidents have occurred near m13.
 The road descends to level paddy fields.
- 18m. **PANGNIM** (Shan, 11h. 3,721 ft.).
Water—Plentiful.
Fuel—Plentiful.
- 189m. 4f. *Fodder*—Fair grazing.
Supplies—Nil.

Stage 17. **PANGNIM—NAM HPAKKA.**

- 11m. Bridged throughout with stone bridges, except steel bridge across NAM HKAI.
- 0m. 7f. Crosses NAM HKAI (fordable two furlongs above bridge) by steel and wooden suspension bridge (185 ft. × 30 ft. high) capacity 8-ton vehicle (laden). This bridge is very narrow and limits the width of lorries to 7 ft. 6 inches.
- 3m. Passes through a gap and turns N. through undulating open country and passes one mile E. of MONG YU (Shan 32h.).

NOTE.—This MONG YU in STAGE 17 of the BURMA ROAD must not be confused with MONG YU in STAGE 19—a large and important village at the junction of Routes D.-1 and D.-2A.

D.-11 branches L. to NAMTU.

D.-13 branches L. to MONG WI.

From MONG YU a mule track branches R. to NAMHKOM (Palaung).

- 8m. And a track L. to HOSI (Kachin). Near HOSI there is an i.b., on E. of the road. Here wide open spaces and rolling downs.

- 11m. Thence road descends and crosses the NAM MAW valley to NAM HPAKKA (3,695 ft.).

ROUTE D-1—contd.

- 200m. 4f. *Water*—Plentiful, from stream between camp and village.
Fuel—Plentiful.
Fodder—Fair grazing.
Supplies—Nil.
 See D.-15 for a short cut from here to NAMHKAM.

Stage 18. NAM HPAKKA—PANGLAW (KAWNGHKA).

- 15m. Road and country similar to previous stage.
 1m. 4f. Passes SAOPONG (Kachin—23h.).
 3m. 2f. Crosses NAM MWE (fordable in dry weather) by bridge
 (39 ft. × 6 ft. × 6 ft. high).
 5m. Passes NAM MWE (Palaung—7h.).
 5m. 6f. Re-crosses NAM MWE (fordable in dry weather) by
 bridge (45 ft. × 6 ft. × 6 ft.). Thence many other streams are
 crossed all of which are fordable except after heavy rain.
 15m. **PANGLAW** (KAWNGHKA (Palaung 18h).
 215m. 4f. *Water*—Plentiful.
Fuel—Plentiful.
Fodder—Plentiful.
Supplies—Nil.
 At PANGLAW D.-16 branches L. to SE-LAN and D.-21
 R. to MA-LI-PA.

Stage 19. PANGLAW—MONG YU.

- 12m. 4f. Road and country similar to previous stage.
 1m. 2f. Crosses NAM PAW 140 ft. × 3 ft.—(unfordable in rains)
 by single span iron girder bridge, capacity 8 ton-vehicle
 (laden). An awkward rocky site; not easy to make a tem-
 porary bridge.
 Thence gentle ascent for 2m. and then level to.
 6m. Passes TUNGSANG (Shan—Palaung—13h).
 8m. Passes LULA (Kachin—4h).
 9m. Passes NAMLUM (Palaung—20h.).
 9m. 4f. Passes NAMLUM (Kachin—9h.).
 10m. 2f. Passes MAN MAO (Kachin—Palaung—23h.).
 12m. 5f. **MONG YU**. (Road L. to MU-SE). (D.-2A).
 228m. 1f. **MONG YU** is an important road junction.
 Route D.-2A from BHAMO joins the "BURMA ROAD"
 (Route D.-1) at MONG YU.
 Broad open spaces and rounded hills.

Stage 20. MONG YU—KYU-HKOK.

- 11m. 4f. Passes through open country with bare hills on either
 side. The hills close in on the left of the road and are covered
 with low scrub.
 5m. 0f. *Water*—Plentiful.
Fuel—Plentiful.
Fodder—Fair grazing.
Supplies—Enough from village for 500 animals, otherwise
 nil.

ROUTE D-1—concl'd.

- 5m. 4f. NAMTAO village.
Wooden bridge over stream. Valley opens out with rice fields on either side.
- 6m. 1f. Wooden bridge over small stream.
- 6m. 4f. *Water*—Plentiful.
Fuel—Plentiful.
Fodder—Scanty.
Supplies—Enough from village for 500 animals, otherwise nil.
- 8m. 3f. Hills close in and road crosses small saddle.
- 9m. 2f. Country becomes open again. The road passes round the side of a hill.
From here to the border and beyond, the road is overlooked by a high ridge on the Chinese side.
- 11m. 4f. **KYU-HKOK** (i. b.).
- 239m. 5f. *Water*—Plentiful.
Fuel—Plentiful.
Fodder—Scanty.
Supplies—Enough for 500 animals.
At KYU-HKOK the "BURMA ROAD" crosses the frontier to WANTING and runs via LUNG LING to KUN-MING.

ROUTE D-2.**HSENWI—KUNLONG FERRY.**

55m. 2f. 5 Stages. General Direction E.

Epitome—

This road was used by M.T. throughout the year—with considerable difficulty in the rains. Towards the end of 1943 reports were received that the Japanese were improving the road and widening it.

From HSENWI to KONG TAP (30m.) the road is practically flat with an average width of about 14 ft. The road is bridged throughout.

Stage 1. HSENWI—TANGHKAN.

12m. A level gravel road passing through light undulating jungle with paddy cultivation in the valleys.

6f. Route D.-1 (The "BURMA ROAD") branches L. to KUTKAI.

1m. 6f. Passes PANGLAW.

2m. 2f. Passes WINGHKA.

3m. 2f. Passes HSATONG.

4m. 2f. Passes HO-U (Shan) and crosses NAM MIN by bridge.

6m. Passes SE-U (Shan 20h).

C.G.—Unlimited round village.

Water—Plentiful.

Fuel—Obtainable 1m. distant.

Fodder—Plentiful.

Supplies—Large quantities of paddy, fowls, beef, etc., and from bazaar in small quantities. 5th day bazaar.

ROUTE D-2—contd.

7m. 2f. Passes MANKUN (Shan).
 8m. 4f. Passes HE-NAWNG (Shan—22h.).
 12m. **TANGHKAN** (Shan—11h.).
C.G.—For 1 Bn.
Water—From stream near C.G.
Fuel—Available.
Fodder—Available.
Supplies—Negligible.

Stage 2. TANGHKAN—NAM SARAWP.

9m. Road as in previous stage. Passes through jungle.
 Passes KONGKAW (Shan 19h.).
 9m. **NAM SARAWP** (3 villages)—(a) Shan—on R. bank of
 NAM SARAWP.
 (b) Kachin on R. bank.
 (c) Chinese mixed on L. bank.
C.G.—For 1 Bde. in paddy fields on R. bank in dry
 weather.
 (b) For 1 Bn.—1 Bde. on high ground near village in rains.
Water—Available from stream.
Fuel—Plentiful.
Supplies—Negligible. 1,000 baskets of paddy and a few
 fowls, etc., from bazaar. 5th. day bazaar.

Stage 3. NAM SARAWP—NATI.

11m. 2f. Road as in previous stage as far as KONG TAP.
 Crosses NAM SARAWP in village, thence ascends passing
 NAM BUM.
 2m. Leaves old mule track which rejoins route at 5m. 4f.
 3m. Reaches top of rise.
 5m. 5f. Passes PANGTO (Kachin 6h.).
 7m. Reaches and follows top of fairly level ridge.
 8m. 2f. Descends towards NATI—watershed begins.
 8m. 6f. Crosses two small streams.
 Thence crosses three more streams.
 Passes KONG TAP (Kachin i.b.).
 10m. Here descends to NATI (NAM YI) (100 ft. by 1 ft.)
 (fordable in places during rains.)
 11m. 2f. NATI (Shan 36h.). 200 yds. beyond, and 40 ft. above R.
 bank of river on a small plateau.
 32m. 2f. *C.G.*—(a) For 1 Coy. on L. bank, could be extended with
 clearing.
 (b) For 1 Coy. on R. bank—S. of village and above it
 with clearing.
 (c) Unlimited in fields N. of village in dry weather.
Water—Plentiful.
Fuel—Plentiful.
Fodder—Plentiful.
Supplies—Negligible.

Stage 4. NATI—JUNGLE CAMP.

12m. Road as in previous stage. Passes through dense jungle
 3½f. Crosses nullah by bridge.

ROUTE D-2—concl'd.

- 5½f. Crosses nullah (14 ft.) by bridge.
 1m. Junction of NATI and NAM NIM (River known as NAM NIM from here onwards).
 1m. Crosses NAMSI HKA (9 ins. deep—swift current—rocky bed—unfordable in rains) by bridge. Thence follows the line of the NAM NIM.
 5m. 4f. C.G.—For 1 Bn. near junction of NAM TANG and NAM NIM.
 7m. 3f. Possible. C.G.
 7m. 4f. Crosses NAMLAUK HKA.
 8m. 6f. Country becomes more open, thence continues in steep descents and ascents.
 9m. Crosses NAMBYANG HKA.
 9m. 1f. Possible camp site on ridge.
 10m. Country becomes dense and mountainous.
 12m. 2f. A track branches back to C.G. near junction of MAN HOI and NAM NIM.
 44m. 2f. C.G.—For 1 Coy. with Tpt.
 Water—From River.
 Fuel—From jungle.
 Fodder—Possibly available.
 Supplies—Nil.

Stage 5. JUNGLE CAMP—KUNLONG.

- 11m. Road and country similar to previous stage. Very steep and dense.
 5m. C.G.—150 yds. × 60 yds.—water from NAM NIM.
 6m. 3f. Track joins from S. Crosses NAMHPUNG HKA.
 7m. 1f. OLD P. W. D. road joins from S.
 7m. 3f. Passes ULI HKATAWNG (Kachin).
 7m. 6f. Passes Chinese hamlet. Thence route crossing many streams climbs and descends several times—thence.
 11m. Passes through flat jungle-covered country to KUNLONG FERRY.
 55m. 2f. C.G.—(a) For 2 Coys. W. of village on large open space on S. bank.
 (b) For 2 Coys. N. of village on river bank.
 Water—Best supply from small stream near C.G. on N. bank.
 Fuel—Plentiful.
 Fodder—Fair supply.
 Supplies—Plentiful—5th. day bazaar.
 Here the SALWEEN is crossed by a ferry.
 (Note on Ferry in "Notes on River Crossings" at end of book).

Fourteen to fifteen miles W. of KUNLONG on the road to HSENWI there is a vulnerable point. At this place the road runs along the face of a cliff with the NAM NIM river to the N. Bomb hits would cause the cliff to fall in and repairs might take any time from two days to three weeks.

The U.S.S.A.F. reported signs of road improvement activities along the road E. of KUNLONG Ferry for a distance of 10 miles. (23rd April 1943).

ROUTE D-2A.

LASHIO—BHAMO via SHWELI BRIDGE.

Length 203 miles. 18 Stages. General Direction N.W.

Epitome—

From LASHIO as far as MONG YU this route coincides with the "BURMA ROAD". (Route D-1). At MONG YU this route branches W. and later turns S.W. till it reaches the SHWELI Bridge when it turns N.W. to BHAMO.

As a feeder of the "BURMA ROAD" and as the most important connection between the IRRAWADDY and CHINA, this road is of the highest importance. Before the evacuation of BURMA large quantities of supplies for CHINA were carried up the IRRAWADDY by steamers of the IRRAWADDY FLOTILLA COY., to BHAMO and thence transported along this road to the "BURMA ROAD".

The route lies in the SHAN STATES only as far as the SHWELI BRIDGE.

The stages SHWELI BRIDGE to BHAMO are in BURMA (BHAMO District) Route Book "C", Route C VII. The stages from the SHWELI Bridge to BHAMO are here given for the sake of continuity.

A metalled road fit for all M.T. throughout the year—certain sections very difficult in the rains.

LASHIO—MONG YU eight stages (104 m. 5f. *see* Route D.-1, Stages 12—19.)

Stage 9.

MONG YU—MU-SE.

- | | | |
|-------|-----|---|
| 7m. | 3f. | The road runs through open spaces; rounded, grass-covered hills. |
| 0m. | 3f. | Passes HONA. |
| 7m. | 3f. | MU-SE (SHAN—CHINESE, 600h., p.o., i.b.) |
| 112m. | 0f. | <i>C.G.</i> —For one Division on level plateau E. of village, no cover.
<i>Water</i> —Sufficient for a small force from streams and pond near village; a large force could draw from the SHWELI River.
<i>Fuel</i> —Available.
<i>Fodder</i> —Good grazing.
<i>Supplies</i> —Negligible—200 baskets paddy obtainable. |

Stage 10.

MU-SE—SE-LAN.

- | | | |
|-----|-----|---|
| 7m. | 0f. | A fairly level road. |
| 2m. | 0f. | Crosses NAM PAW stream (140 ft. × 3 ft.—unfordable in rains) by single span iron girder bridge, capacity 8-ton vehicle (laden). |
| 3m. | 6f. | Road passes a conspicuous conical hill. Crosses several small streams and passes numerous SHAN villages. |

ROUTE D-2A—contd.

7m. 0f.
119m. 0f.

SE-LAN (Route D.-16 branches S.E. to PANGLAW).
C.G.—For one Bde.—100 yds. E. of village.
Water—Plentiful.
Fuel—Obtainable.
Fodder—Good grazing.
Supplies—Negligible—small quantity of paddy.

Stage 11.

SE-LAN—NAMKHAM.

12m. 0f.
4m. 4f.
8m. 0f.

A fairly level road.
NAWNGLAUNG.
After touching the SHWELI passes KAWNG MU and again touches the SHWELI and passes a large, white stone SHAN well and runs parallel to the SHWELI.

11m. 4f.

Crosses NAM LONG by stone arched bridge—here there is an excellent C.G. for one Division. Water and grass plentiful.

12m. 0f.

NAMKHAM (SHAN, CHINESE, 800h., p.t.o., i.b., hospital, see Routes D.-15, D.-51 and D.-56.)

131m. 0f.

C.G.—(a) For 2,000 men E. of village—4 *zayats* in village.

(b) For 800 men in NAWNGSANG 1 m. E.N.E. on rising ground by American Baptist School.

(c) Camping space near village. Three large wooden buildings in village. Not much cover near NAMKHAM.

Water—Plentiful. Stream and well.

Fuel—Available.

Fodder—Good grazing in both C.Gs. Paddy and straw plentiful.

Supplies—Plentiful. Bazaar every 5th day. The bazaar is said to be the largest in the SHAN States.

Stage 12.

NAMKHAM—MAN WING.

8m.

The road runs fairly level—muddy and difficult in places in the rains—

2m. 2f.

To the SHWELI river which is crossed by a suspension bridge, 450 ft. span with steel towers 50 ft. high capable of carrying a load of 10 ton rollers, nose to tail. If this bridge were destroyed, the SHWELI river is not fordable. Before the bridge was built, the local SNANS built a bridge of bamboos at a site about 3 miles above the present suspension bridge, capable of carrying a bus with a load of 2½ tons. This bridge was washed away each rains.

There are isolated portions of N. HSENWI State W. of the SHWELI River—the SHWELI river and the MAW SWI HKA form the W. boundary of the N.S.S. The remainder of the route lies in Route Book "C" (Route C. VII) but the stages from the SHWELI river to BHAMO are here given for continuity. After crossing the SHWELI bridge the road climbs very steeply and at

ROUTE D-2A—contd.

7m. 0f. Crosses the NAMMAK-HKA by 100 ft. steel truss bridge.
The NAMMAK-HKA is also known as the MAW SWI HKA and here forms the boundary between BURMA and the Northern SHAN States. (N. HSENGWI State).

8m. 0f. Road continues level—passing through paddy fields to MAN WING.

139m. 0f. **MAN WING** (30h., Shan, 5th day bazaar, I.B.).

C.G.—Available.

Water—Limited. Village wells.

Fuel—Plentiful.

Fodder—Paddy and straw. Grazing on grassy hills.

Supplies—Limited.

At MAN WING village, an all-weather motor road branches N. to LOI-WING (airfield) in YUNNAN. This road is five miles long and crosses the NAM WAN river by a temporary bridge. On the right bank of the NAM WAN is the large village of PANGHKAM. Here there was a Military Police outpost, inspection bungalow and p.t.o.

The NAMWAN River here forms the boundary between BURMA and CHINA.

Stage 13.

MAN WING—KAWNG AI.

10m. 4f. The first two miles of this stage is over open plain, chiefly grassland. The road then climbs to

10m. 4f. **KAWNG AI** (about 2,500 ft.).

149m. 4f. **KAWNG AI** (I.B.). The village is about 2 miles to the S.W.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Nil.

Supplies—Nil.

Stage 14.

KAWNG AI—HKALUM.

10m. 0f. For the first 3 miles the road descends in a cutting in a steep side slope from about 2,500 ft.

1m. 4f. Mule track right to LWEJE.

6m. 0f. Mule track (C 80) branches right to LWEJE, and PANG-KHAM.

10m. 0f. **HKALUM** (I.B.).

159m. 4f. Water, etc., as for KAWNG AI.

Stage 15.

HKALUM—NAMYU.

8m. 4f. For the first 3½ miles the road climbs to a Kachin village (4,050 ft.).

8m. 4f. And from there descends to NAMYU.

168m. 0f. **NAMYU** (I.B.) village is about 2 miles away to the S.E. 3,900 ft.

Water, etc., as for HKALUM.

ROUTE D-2A—concl'd.**Stage 16.****NAMYU—MADANGYANG.**

15m. 0f.

The road is partially metalled but may be difficult if not impossible during the rains. A high clearance is necessary owing to the deep tracks made by heavy vehicles during the monsoon. The road runs through hills which are covered with dense jungle, gradient 1 in 20, many sharp bends. There are two minor bridges with bad entrances; from mile 6 to mile 10 there is a precipitous fall away.

15m. 0f.

MADANGYANG (R.H.) 30 h., Kachin.

183m. 0f.

Water—Unlimited from MOYU C.*Fuel*—Plentiful.*Fodder*—Limited.*Supplies*—Nil.**Stage 17.****MADANGYANG—MAN SI.**

7m.

The road runs in a N.W. direction down the valley of the MOYU stream, many blind bends.

3m. 6f.

Passes CHAUNGDAUK (40 h., Kachin).

4m. 5f.

Passes CHYAUNGHKAWNG (30 h., Shan) where old pack route *via* PITA branches L.

5m. 7f.

Passes NAKANG (12 h., Shan and Kachin).

7m. 0f.

MAN SI (9 h., Shan 40 h., Kachin, I.B.).

190m. 0f.

Water—Limited from wells. Plentiful from $\frac{1}{4}$ mile E. of village.

Fuel—Plentiful.*Fodder*—Limited.*Supplies*—Nil.

Route C.—48 branches off S.W. to SI-U and MOMEIK.

Route C.—34 branches off S. to PAUNGTAN.

Stage 18.**MAN SI—BHAMO.**

13m. 0f.

A shingle surfaced all-weather road passing through paddy fields and jungle-covered plain.

3m. 0f.

SAWANGHTAWNG (40 h., Kachin) I.B.

From SAWANGHTAWNG, a road (motorable in the dry season) runs in a S.W. direction to KONTEIN where it meets C.-48 and C.-48 A.

5m. 5f.

Crosses THEINLIN stream by steel bridge 12 ft. wide, 200 ft. long (2 span 100 ft.).

Passes MAN YUT (100 h., Shan).

8m. 0f.

Crosses NANSIRI stream by steel bridge 12 ft. wide (2 span 100 ft.).

9m. 5f.

Passes PAN-GA-GON (20 h., Indian).

12m. 0f.

Passes HANTE (60 h., Shan).

13m. 0f.

BHAMO.

203m. 0f.

ROUTE D-2B.

MINOR ROADS IN KUTKAI DISTRICT.

KUTKAI—TANGSHAW.

Length :—16 miles (approx.) Direction S.E. 3 Stages.

Epitome—

A 6'—8' wide road suitable for A.T. carts throughout the year, though in the latter stages of the route the going is very heavy during the wet season. M.T. can go as far as NAWGPIT in the dry weather. The road passes through grassland and sparsely wooded hills. Little cover from air.

Stage 1.

KUTKAI—HONAM PALANG.

5m.
(approx.).

Track runs over flat open country. Crosses 1 wooden bridge 8 ft. wide, 24 ft. long, capable of carrying M.T. and A.T.—Repairs are required to bridge. The village of HONAM PALANG now deserted.

C.G.—200 yds. East of HONAM 1 Battalion.

Water—Nulla beside track.

Supplies—Nil.

Fodder—Plentiful.

Stage 2.

HONAM PALANG—MANPENG.

6m.
(approx.).

The track for the first half is good but becomes very rough and animals proceed only with difficulty. There is one natural bridge capable of taking M.T.—width of bridge 15'. About 5 miles there is a site suitable for L.G. There is a track leading off to TASANG. If required to use this route, a bridge 10 ft. span is necessary.

11m.
(approx.).

C.G.—Available.

Water—Plentiful.

Supplies—Nil.

Fodder—Available.

Stage 3.

NAMPENG—TANGSHAW.

5m.
(approx.).

Track over this stage very difficult in rains. Beyond MANHIM pack transport cannot go as there is a gradient of 1 : 3 for 1 mile. Cross 1 stream—rafts necessary in rains—fordable in dry weather.

16m.
(approx.).

C.G.—1 Battalion 300 yds. east of 14 milestone.

Water—From stream.

Supplies—Nil.

Fodder—Available.

At TANGSHAW this Route joins Route D-1.

KUTKAI—MONG NGE.

Length :—14 miles. Direction N.E. 1 Stage.

Epitome—

An 8' unmetalled road. Could take M.T. in dry weather and possibly in wet weather if chains used. At present road unusable for M.T., as bridges are bad.

ROUTE D-2B—contd.

Stage 1.

14m.

An undulating road passing through open country.
Several villages passed along route.

C.G.—Available throughout route.

Water—Plentiful.

Supplies—Nil.

Fodder—Available.

KUTKAI—KONGSA.

Length :—5 miles (approx.). Direction W. 1 Stage.

Epitome—

An 8' unmetalled road suitable for light M.T. up to 300 yds. from KONGSA.

Stage 1.

The road runs through hilly grassland and scrub.
Numerous broken wooden bridges can be by-passed, though with difficulty in some cases.

C.G.—In jungle West of KONGSA.

Water—Nulla N.W. of road.

Supplies—Nil.

Fodder—Plentiful in wet weather.

Very scarce in dry weather.

KUTKAI—KONGHSHA.

Length :—14 miles (approx.). Direction N. 1 Stage.

Epitome—

A pack track varying from 4'—9' in width. During the rains it is very muddy. Very steep in parts. Bridges except the 5th and last (60' × 8') could all be by-passed by diversions through fords. No boats are available.

Stage 1.

The track runs over country varying from flat grass land to hilly jungle country.

C.G.—1 Battalion.

Water—Plentiful.

Supplies—Not known.

Fodder—Plentiful.

MONG NGE—Point 3132 (Map ref. 93. I. SP. 1441).

Length :—6½ miles (approx.).

1 Stage.

Epitome—

General Direction N.E. A mule track not capable of taking carts. Path is muddy and difficult in the rains.
Width 5' (approx.).

ROUTE D-2B—concl'd.**Stage 1**

After roughly 3 miles cross a large stream 30' wide and 10' deep, by natural bridge. Banks 9' high and steep. Current 3 m. p.h.

C.G.—1 Bn.

Water—Plentiful.

Fodder—Plentiful.

Supplies—Nil.

MONG NGE—MONGTAWNG.

Length :—8 miles approximately.

1 Stage.

Epitome—

General Direction N. A very muddy 3' track which in the rains is impassable to A.T. or M.T.

Passes through sparsely wooded hills and paddy and grass-land.

Stage 1.

One or two wooden bridges, broken down, can be by-passed by diversions.

C.G.—1 Coy. 500 yds. East of MONGTAWNG.

Water—Plentiful throughout route.

Fodder—Plentiful throughout route.

Supplies—Nil.

MONG NGE—MONG HAWM.

Length :—24 miles (approx.). General Direction N.E.

2 Stages.

Epitome—

A 4' mule track—very difficult in the rains. Bridges either very poor or non-existent. If track required to be used extensively, work in this connection would be necessary.

Stage 1.**MONG NGE—MAN NAMSANG.**

13m.

A poor track, running through thickly wooded hills and rocky nullahs.

C.G.—1 Battalion.

Water—Plentiful.

Fodder—Plentiful.

Supplies—Nil.

Stage 2.**MAN NAMSAWNG—MONG HAWM.**

11m.

Track and country as in previous stage. Cross bamboo bridges (1) 2' x 50' fit for infantry only. (2) 3½' x 50' fit for ponies. Also nullah 60' wide, depth 3', stone bottom. Banks 6' high and steep. Difficult in rains. No bridge.

C.G.—Available.

Water—Available.

Fodder—Available.

Supplies—Nil.

ROUTE D-3.

LASHIO—KUNLONG FERRY.

Length :—90m. 5f.

8 Stages.

(To reach KUNLONG Ferry the best route is D.-2 from HSENWI).

Epitome—

An unmetalled, red laterite road to MONG YAU which is passable to light M.T. in dry weather, but owing to the nature of the surface it is liable to cut up under heavy traffic—it would not stand the strain of L of C work for any large force. Passable to M.T. in the rains, possibly necessary to use chains—It would Not stand heavy or constant traffic. Thence to KUNLONG becomes a bad and difficult mule track—with some steep gradients—slippery and very difficult in rains; passing for the most part through dense mountainous country.

C.G.—For 1 Bn. though cramped in stage 6.*Water*—Plentiful.*Fuel*—Unlimited except stages 1, and 2, where scarce.*Fodder*—Plentiful—except stage 6.*Supplies*—Plentiful—except stages 4, 5 and 6 where Nil.

NOTE.—At LASHIO this route joins route D-1 and D-7. At KUNLONG this route joins route D.-2.

Stage 1.

LASHIO—MONGTIM.

11m.

A metalled road from LASHIO along D-1. Fit for M.T. throughout the year at

2m. 4f.

Passes old LASHIO Bazaar thence continues and crosses NAM YAO by iron bridge, continues for 400 yds. then branches R. leaving main LASHIO—HSENWI road (Route D-1.)

4m. 5f.

Here route becomes unmetalled and only passable to light M.T. in the dry season. Passes through open downland country.

8m.

Crosses a small stream.

NOTE.—2 miles can be saved for marching infantry with pack Tpt. by taking a short cut from old LASHIO passing through the following villages (in dry weather only) :—

HATKA, TAPON, NAHO, NAPHA, MOITAH, KONG-KANG, KUNGLIM to MONGTIM.

11m.

MONGTIM (38h.).

C.G.—(a) Unlimited in paddy fields, in dry weather only.(b) For 2 Coys. on small hill E. of and close to *kyaung*.*Water*—Plentiful—(a) From river.(b) From well N. of hill 50 yds. from *kyaung*.*Fuel*—Scarce—all wood has to be brought 3 miles.*Fodder*—Plentiful.*Supplies*—Plentiful—5th day bazaar.

ROUTE D-3—*contd.*

Stage 2.

MONGTIM—MONG YANG.

- 12m. An unmetalled road. Passable to light M.T. throughout the year (wheel chains may be necessary in the rains) all streams are bridged. Passes through open undulating downland for 7 miles.
- 3m. Passes round a hairpin bend.
 Passes NAWNGMO.
 Passes KONGHKAN—here stretch of very bad road.
 Passes KUNG NAWT.
 Passes NAM POI.
 Passes TAYAU.
- 8m. Passes KAWNGLON—here surface of road is again bad. Thence again through downland with a steep descent to

 23m. 0f.

MONG YANG (50h.—i.b.).

- C.G.—(a) Unlimited in paddy fields—dry weather.
 (b) For 3 Coys. in small copse, N. E. of village 100 yds. L. of road.
 Water—Plentiful—from river and wells.
 Fuel—Scarce.
 Fodder—Plentiful.
 Supplies—Plentiful—5th day bazaar.

Stage 3.

MONG YANG—MONG YAU.

- 9m. 3f. Road as in previous stage. Follows the line of NAM YAO through narrow wooded gorge.
- 4m. 4f. There are two bad patches of road—each 100 yds. long.
- 5m. 7f. Crosses NAM YAO by suspension bridge (100 ft. long). Thence climbs and descends passing LUNGMON at foot of hills. Thence runs into the MONG YAU amphitheatre across a level plain, road well drained.

 32m. 3f.
MONG YAU (60h.—i.b.) the i.b. is reached $\frac{1}{2}$ mile before reaching the village.

- C.G.—(a) Unlimited in paddy fields in dry weather.
 (b) For 3 Coys. on knoll S.E. of Pagoda (200 yds. distant under large fig tree).
 (c) For 2 Plns. near pagoda.
 (d) A large compound round *kyaung*.
 Water—Plentiful—from river and wells.
 Fuel—Fair supply.
 Fodder—Plentiful.
 Supplies—Plentiful—5th day bazaar.

NOTE.—There is another route to NAMLENG from MONG YANG via HOIHOK climbing the hills N.E. of MONG YANG. This route through hills saves 6 miles. Passable to infantry marching and possibly to pack Tpt.

ROUTE D-3—*contd.*

Stage 4.

MONG YAU—NAM LENG.

11m. 2f. Here route deteriorates into a difficult mule track passing through level country to

3m. 4f. Passes UNKYAWNG. Here short cut *via* HIHOK from MONG YANG joins track. In rains owing to ground being swampy from paddy fields progress would be slow. Thence country becomes dense and hilly, though with no really steep gradients.

9m. Track descends to

11m. Crosses NAMLENG (45 ft. wide—rocky—gravelly bed—easily fordable) by wooden bridge.

Passable for Pack Tpt.

43m. 5f. **NAM LENG** (5h.).

C.G.—On slope below village on bank of small tributary.

Water—From brook.

Fuel—Plentiful.

Fodder—Limited.

Supplies—Nil.

Stage 5.

NAM LENG—MONG KET.

11m. A fair mule track in bad condition. Passes through dense mountainous country. Leaving camp, route ascends steeply and follows along crests of hills.

2m. Crosses small stream; here *C.G.* for 2 Coys.

Water, Fuel, Fodder—Plentiful.

Supplies—Nil.

3m. Road descends—very narrow, steep and stony.

6m. Passes HPAN—KYE—HWAR—SHUKAI (Chinese 15h.—5th day bazaar).

Crosses NAM LENG (NAM KET), unfordable in rains, by bridge 70 ft. long. Fordable immediately below bridge.

Passes HOHKAI (Shan 10h.). From here there is a narrow alternative path to MONG KET—unpassable in rains. Thence level through paddy fields—liable to be swampy in the rains, to

54m. 5f. **MONG KET** 1,600 ft. A large village on r.b. of NAM KET.

C.G.—(a) For 1 Bn. S. of village in paddy fields (dry weather).

(b) For 1 Bn. on knoll—400 yds. S. of village round *kyaung*.

Water—Plentiful—from river.

Fuel—Plentiful.

Fodder—Plentiful.

Supplies—A fair quantity of paddy and rice. 5th day bazaar.

Stage 6.

MONG KET—PANGHKAM.

13m.

A mule track, on leaving MONG KET crosses NAMLENG (NAM KET) 60 ft. wide—in most places unfordable—by wooden bridge and continues through paddy fields—swampy and difficult in rains.

ROUTE D-3—*contd.*

2m. 4f. Passes KAWNGHET on hill N. of road. Here crosses small deep unfordable stream by bridge. From here onwards to HONA at 6m. all streams are bridged.

4m. 4f. Passes NAW WO (deserted).

5m. Passes NAWNGAW.

6m. Passes HONA (15h.) S.E. of track.

Here track bifurcates (a) leading N.W. to NATI.

(b) Leading N.E. to PANGHKAM.

Thence crosses over ridge and fords NAM SA (difficult in the rains—20 ft. wide—swift current). Bridging material is however close at hand from jungle. Thence undulates through hills for 5 miles, the track being poor and slippery in the rains to

67m. 5f.

PANGHKAM (10h.).

C.G.—For 2 Coys. in centre of village.

(b) For 2 Coys. between village and NAM TAW.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Scarce.

Supplies—Nil.

Stage 7.

PANGHKAM—MAN KUNG MONG.

7m. Mule track. Leaving PANGHKAM continues through dense jungle to

3m. Thence passes through open downland—the surface is bad and there are many steep gradients. Very difficult in rains.

5m. Descends to level of NAM MONGLENG (60 ft. wide—waist deep in rains), and continues, along it for 600 yds. then crosses it by strong wooden bridge.

6m. 4f. Steep ascent to top of hill and continues along this to

74m. 5f.

MAN KUNG MONG (60h.).

C.G.—For 4 Coys. on knoll just N. of village.

Water—Plentiful—from wells and streams.

Fuel—Plentiful.

Fodder—Fair supply.

Supplies—Plentiful—5th day bazaar.

Stage 8.

MAN KUNG MONG—KUNLONG FERRY.

16m. A mule track. Follows the line of a small stream level through dense waterless country at

2m. enters a re-entrant and continues up it. Several of the passes between high rocks, through which the track goes, are very difficult to negotiate and single file is necessary.

4m. Passes P'NGCHAI (6h.).

6m. Passes LOIPE (15h.), N. W. of road and below it. There is no water or cultivation between MAN KUNG MONG and LOIPE. Thence descends with some steep and difficult gradients through jungle and high grass.

ROUTE D-3—concl'd.

8m. Passes PANGWO (Kachin).
 10m. 4f. Passes PANGMA (6h.).
 Thence very steep zig-zag descent, surface very bad.
 13m. 4f. Passes SUNGHAI on banks of NAM NIM (NATI),
 (25 ft. wide—waist deep—banks 30 ft. high and sandy.
 A good ford just by village over bank of pebbles). Thence
 follows NAM NIM to its junction with SALWEEN. Thence
 through jungle crossing several small streams only about
 3 ft. wide but deep (obstacle in rains) to KUNLONG at
 16 miles.

The SALWEEN has steep rocky banks about 30 ft. high.
 90m. 5f. KUNLONG FERRY (here SALWEEN is crossed by a
 ferry).

(Note on Ferry in "Notes on River Crossings" at the end of Book).

C.G.—(a) For 2 Coys.—W. of village on large open space
 on S. bank.

(b) For 2 Coys.—N. of village on river bank.

Water—Plentiful—Best supply from small stream near
 C.G. on N. bank.

Fuel—Plentiful.

Fodder—Fair supply.

Supplies—Plentiful—5th day bazaar.

ROUTE D-4.

LASHIO—TANG-YAN.

Length:—81m. 4f.

7 Stages.

Epitome—

The road is metalled as far as NAM PAWNG (24m. 6f.)
 thence metalled, or with good gravel surface to HOYA (48m.
 4f.) and is fit for all M.T. throughout the year. From HOYA
 to TANG-YAN unmetalled, earth-surfaced, with dust
 4 inches to 8 inches thick. Fit for light M.T. in the dry
 season. Very difficult though passable, for light M.T. in
 the rains, using wheel chains. Lorries, however, although
 using chains, become bogged at this season. Passes through
 open undulating country. Stage 5 is difficult owing to a
 steep ascent with hairpin bends. Crosses NAM LAN in
 Stage 3.

C.G.—For 1 Bn. throughout—with clearing in some
 stages.

Water—Plentiful throughout.

Fuel—Ample throughout.

Fodder—Limited throughout.

Supplies—Limited except in Stage 4 where rice, and oxen
 are plentiful.

NOTE.—For the first 7m. this route coincides with Routes D-1
 and D-5. Seven miles from LASHIO it turns E. and coincides with
 Route D-5 as far as HOYA. At TANG-YAN, this route joins Routes
 D-26, D-33, D-34 and D-93.

ROUTE D-4—*contd.*

Stage 1. LASHIO—PAUNG-PAUK-LING. (PANGMAKHE-LENG.)

13m. A good metalled road. Fit for all M.T. throughout the year. Passes through open low tree jungle. The route follows Route D-1 to

7m. 0f. and turns L. From here on it becomes Route D-4.

13m. PAUNG-PAUK-LING. (Shan—50h., Sawbwa's C.H.).

C.G.—For 1 Bn. with clearing.

Water—Available from wells (a) in village, (dry in hot weather);

(b) $\frac{1}{4}$ m. from village E. of road—(Plentiful throughout the year).

Fuel—Plentiful from jungle.

Fodder—Limited grazing.

Supplies—Limited; small bazaar.

Stage 2.

PAUNG-PAUK-LING—NAM PAWNG CAMP.

12m. Metalled road. Passable to M.T. throughout the year. From m.2 to m.3 passes through a tung plantation on N. of road.

From m.6 to m.11 passes throughout dense undulating country.

11m. 6 $\frac{1}{2}$ f. Passes NAM PAWNG (i.b.).

11m. 7f. Crosses NAM PAWNG (150 ft.—swift current) by suspension bridge.

25m. NAM PAWNG CAMP.

C.G.—(a) Unlimited in paddy fields in dry weather.

(b) For 1 Bn. with clearing between river and *kyaung* (150 yds. N.N.E. of road).

Water—Plentiful from river.

Fuel—Plentiful from jungle.

Fodder—Limited grazing.

Supplies—Negligible.

Stage 3.

NAM PAWNG—LOI NGUN.

12m. 5f. Metalled most of the way, thence gravelled. Fit for M.T. throughout the year.

6 F. Route D.-28 branches N.E. to TA HSAILENG.

6m. Crosses NAM MA (NAM LAN) (swift current—high banks), by steel girder bridge (100 ft. long by 12 ft. wide).

37m. 5f. LOI NGUN (i.b., Sawbwa's r.h.).

C.G.—For 3 Bns. E. of i.b.

Water—Obtainable from stream E. of road, throughout the year.

Fuel—Plentiful from jungle.

Fodder—Fair grazing only.

Supplies—Negligible; small quantities meat, fowls and vegetables, etc.—5th day bazaar.

Stage 4.

LOI NGUN—HOYA CAMP.

12m. 1f. Road similar to previous stage. Country intersected by cultivated valleys with little jungle.

ROUTE D-4—contd.

1f. Road starts ascent, which continues undulating to 8m; thence level to HOYA.

9m. Passes grass clearing S.W. of road, 500 yds. × 200 yds. stretching N.W.—S.E. A possible site for aircraft landing ground with slight clearing. No local hill obstacles. Surrounding country bush and light jungle.

10m. 7f. Passes HOYA (50h.). Road thence becomes unmetalled.

49m. 6f.

HOYA CAMP.

C.G.—For 3 Bns. throughout the year.

Water—Plentiful.

Fuel—Plentiful from jungle.

Fodder—Fair supply of grass; paddy plentiful.

Supplies—Negligible. Limited quantities of meat, vegetables, eggs, etc., on bazaar days.

Route D-5 branches here to MONG YAI.

Stage 5.

HOYA CAMP—MONG PAT.

9m. 7f. Gravelled road. Fit for M.T. Passes through steep mountainous country with hairpin bends; maximum gradients 1/10.

3m. Hill section for 7 miles.

8m. Road becomes level and crosses KO KWE by steel bridge.

59m. 5f.

MONG PAT (i.b.,—60h.).

C.G.—(a) For 2 Bns. in paddy fields in dry weather.

(b) For 1 Bn. on high ground round village.

Water—(a) Obtainable from stream $\frac{1}{2}$ m. from village.

(b) From well—limited—near village.

Fuel—Fairly plentiful from jungle.

Fodder—Limited grazing; paddy plentiful.

Supplies—Negligible—5th day bazaar, one mile distant.

Stage 6.

MONG PAT—MAN KAT CAMP.

11m. Road gravelled similar to previous stage. Passes through low-lying ground.

2m. Thence rises to

6m. and thence descends, very winding, to

69m. 5f.

MAN KAT CAMP.

C.G.—(a) For 4 Bns. on grass near NAM PANG (dry weather).

(b) For 2 Bns. on grass near NAM PANG (in rains.)

Water—Plentiful throughout the year from the NAM PANG.

Fuel—Plentiful.

Fodder—Rough grazing.

Supplies—Negligible—5th day bazaar. Limited Supply—vegetables, meat, eggs, etc.

Stage 7.

MAN KAT CAMP—TANG-YAN.

11m. 7f. Road as in previous stage through wooded hilly country for approximately 5m.

1m. Crosses NAM PANG by suspension bridge.

5m. Country opens to open bush, and light jungle-covered downs.

ROUTE D-4—concl'd.

8m.		Passes HUNGH-I-TAWNG (14h.), $\frac{1}{2}$ m. L. of road.
8m.	7f.	Road surface improves and road undulates gently to
81m.	4f.	TANG-YAN (i.b., dis., p.o.).
		C.G.—Unlimited on open, grass-covered downs round village.
		Water—Plentiful.
		(a) From PANG YENG, throughout the year.
		(b) From springs in the vicinity.
		Fuel—Obtainable near village. Small quantities.
		If required in large quantities must be cut from jungle 2m. distant.
		Fodder—Grazing and paddy plentiful.
		Supplies—5th day bazaar; a great marketing centre in dry season.

ROUTE D-5.

LASHIO—MONG YAI and MAN-NA-HANG.

Length :—118m. 7f. 10 Stages.

Epitome—

The road is metalled as far as NAM PAWNG (24m. 6f.), thence metalled, or with good gravel surface to HOYA (48m. 4f.), and is fit for all M.T. throughout the year. Thence it is metalled or gravelled and fit for all M.T. as far as MAN PONG, Stage 6. Thence passable to M.T. in dry weather only, to MAN PENGHSAI. Thence a mule track to MAN-NA-HANG. There is an alternative route from MAN PENGHSAI to NAKAW, which is fit for M.T. in dry weather the whole way, thence by mule track to MAN-NA-HANG. This route would, however, be longer.

The route passes through open country; Stages 6 and 7 are through thick jungle—Stage 4 through scrub jungle. Stages 9 and 10 through dense mountainous country.

C.G.—For 1 Bn. throughout—with clearing in some stages.

Water—Plentiful throughout.

Fuel—Ample throughout.

Fodder—Limited throughout.

Supplies—Limited except in Stage 4 where rice and oxen are plentiful.

NOTE.—For the first 7m. this route coincides with Routes D-1 and D-4. Seven miles from LASHIO it turns L. and coincides with Route D-4 as far as 49m. 6f. (HOYA camp).

See Route D-93.

Stage 1.

13m.

LASHIO—PAUNG-PAUK-LING.

A good metalled road. Fit for all M.T. throughout the year. Passes through open low tree jungle. The route follows Route D-1 to

ROUTE D-5—*contd.*

7m. 0f. and turns L. From here on it coincides with Route D-4 as far as 49m. 6f. (HOYA Camp).

13m. **PAUNG-PAUK-LING.** (Shan—50h., Sawbwa's C.H.).
C.G.—For 1 Bn. with clearing.

Water—Available from wells (a) in village (dry in hot weather);

(b) $\frac{1}{4}$ m. from village E. of road—(Plentiful throughout the year).

Fuel—Plentiful from jungle.

Fodder—Limited grazing.

Supplies—Limited; small bazaar.

Stage 2.

PAUNG-PAUK-LING—NAM PAWNG CAMP.

12m.

Metalled road. Passable to M.T. throughout the year. Passes through dense undulating country. From m.2 to m.3 passes through a tung plantation on N. of road.

About

11m. 6 $\frac{1}{2}$ f.

11m. 7f.

25m.

Passes NAM PAWNG (i.b.).

Crosses NAM PAWNG (150 ft., swift current, by suspension bridge).

NAM PAWNG CAMP.

C.G.—Unlimited in paddy fields in dry weather.

(b) For 1 Bn. with clearing between river and *kyaung* (150 yds. N.N.E. of road).

Water—Plentiful from river.

Fuel—Plentiful from jungle.

Fodder—Limited grazing.

Supplies—Negligible.

Stage 3.

NAM PAWNG—LOI NGUN.

12m. 5f.

Metalled most of the way, thence gravelled. Fit for M.T. throughout the year. 6f. Route D.-28 branches N. E. to TA HSAILENG.

6m.

37m. 5f.

Crosses NAM MA (NAM LAN) (swift current—high banks) by steel girder bridge (100 ft. long by 12 ft. wide).
LOI NGUN (i.b., *Sawbwa's* r.h.).

C.G.—For 3 Bns. E. of i.b.

Water—Obtainable from stream E. of road, throughout the year.

Fuel—Plentiful from jungle.

Fodder—Fair grazing only.

Supplies—Negligible; small quantities meat, fowls and vegetables, etc.—5th day bazaar.

Stage 4.

LOI NGUN—HOYA CAMP.

12m. 1f.

Road similar to previous stage. Country intersected by cultivated valleys with little jungle.

1f.

Road starts ascent, which continues undulating to 8m.; thence level to HOYA.

9m.

Passes grass clearing S.W. of road, 500 yds. \times 200 yds. stretching N.W.—S.E. A possible site for aircraft landing ground with slight clearing. No local hill obstacles. Surrounding country bush and light jungle.

10m. 7f.

Passes HOYA (50h.), Road thence becomes unmetalled.

ROUTE D-5—*contd.*

-
- 49m. 6f. **HOYA CAMP.**
C.G.—For 3 Bns. throughout the year.
Water—Plentiful.
Fuel—Plentiful from jungle.
Fodder—Fair supply of grass; paddy plentiful.
Supplies—Negligible. Limited quantities of meat, vegetables, eggs, etc., on bazaar days.
 Route D-4 branches here to MONG PAT.
-
- Stage 5. **HOYA—MONG YAI.**
 7m. A metalled road—passable to M.T. throughout the year.
 Passing through open country.
 3m. Crosses NAM KYUSHIN.
 7m. **MONG YAI** (Capital of South HSENWI State, i.b., 60h., residence of *Sawbwa*, hosp.).
C.G.—Unlimited on grass land round village.
Water—Plentiful from wells and streams near village.
Fuel—Scarce.
Fodder—Good grazing (grass).
Supplies—Some available (large 5th day bazaar).
-
- 56m. 6f.
-
- Stage 6. **MONG YAI—MAN PONG.**
 9m. A metalled road passable to M.T. throughout the year.
 Passing through dense tree jungle. Mostly level.
 4f. Crosses NAM YAI by steel girder bridge (demolished).
 4m. Crosses NAM HKO by steel girder bridge (demolished).
MAN-PONG CAMP.
C.G.—For 1 Bn. in paddy fields (dry weather only).
Water—Plentiful from stream.
Fuel—From jungle.
Fodder—Paddy and jungle grazing.
Supplies—Limited; 5th day bazaar.
-
- 65m. 6f.
-
- Stage 7. **MAN PONG—MAN HPAI.**
 9m. 4f. Unmetalled road fit for all M.T., in dry weather only.
 Passes through low tree jungle. No steep gradients, the maximum being 1/15.
 9m. Road turns L.—(a road leads straight on to KE-HSI MAN SAM, Route D-36).
MAN HPAI (*Sawbwa's* r.h.).
C.G.—For 1 Bn. round village—(all seasons).
Water—Plentiful from NAM KAWNG.
 75m. 2f. *Fuel*—From jungle.
Fodder—Good grazing.
Supplies—Negligible. Small quantities of meat and vegetables.—5th day bazaar.
-
- Stage 8. **MAN HPAI—MONG HENG.**
 14m. 5f. Unmetalled road fit for M.T. in-dry weather only.
 Passes through low bush jungle.
 4f. Crosses MAN KAWNG by bridge.

ROUTE D-5—contd.

4m.	Crosses stream by bridge.
5m.	Crosses stream by bridge.
6m.	Rises gently and crosses a ridge—gradient 1/15.
7m. 4f.	Passes MAN KA (36h.). Water from well.
89m. 7f.	MONG HENG (40h., r.h., bazaar). C.G.—(a) For 2 Bns. in paddy fields (dry weather). (b) For 1 Bn. on grass in rains. Water—Plentiful from NAM HA. Fuel—Plentiful from jungle. Fodder—Good grass grazing. Supplies—Negligible. 5th day bazaar with small quantities of meat and vegetables.

Stage 9.

MONG HENG—MONG KAO.

14m.	Unmetalled road fit for M.T. in dry weather only. Passes through dense mountainous country.
2m.	Passes MANKO (15h.).
2m. 4f.	Crosses NAM HA (93 ft. wide) by bridge. Passes MAN TA PI (20h.). Thence through paddy fields.
3m.	Crosses NAM NANG.
3m. 4f.	Passes MAN PAKKYN (35h.). Thence ascends by steep gradient, the LOI CHANG ridge.
5m. 4f.	Reaches crest and descends, gradient 1/5 and crosses NAM HSA.
9m.	Passes PANGKUT—here C.G. for 1 Bn. on grass with clearing. Water—Plentiful. Fuel—Obtainable. Supplies—Negligible—5th day bazaar. Fodder—Jungle grazing.
10m. 4f.	Crosses NAM PANG (161 ft. wide—moderate current) by bridge.
103m. 7f.	MONG KAO (Chinese—Shan—60h.—good <i>zayat</i>). C.G.—(a) For 2 Bns. in paddy fields (dry weather only). (b) For 1 Bn. on grass in rains. Water—Plentiful. Fuel—Obtainable from jungle. Fodder—Rough grazing. Supplies—Negligible—5th day bazaar, small quantities of meat, vegetables; chicken etc.

Stage 10.

MONG KAO—MAN-NA-HANG.

15m.	Leaving MONG KAO an unmetalled road as in previous stage to MAN PENGHSAI, thence a mule track to MAN NA-HANG. Passes through dense mountainous country. Passes MAN PENGSHAI. Thence a mule track R. level for 2m. Thence descending in a series of short, sharp gradients—maximum 1/3.
7m. 4f.	Passes NAM HPAKKUM—thence level for 1½m. and again descends.

ROUTE D-5—*concl'd.*

8m. Crosses NAM KAW, and follows the line of this river onwards.

MAN-NA-HANG.

C.G.—(a) For 1 Bn. in paddy fields.

(b) For 1 Bn. with clearing could bivouac in rains.

Water—From NAM KAW.

Fuel—Plentiful.

Fodder—Jungle grazing.

Supplies—Nil.

118m. 7f.

ROUTE D-6.

HSIPAW—MAN LI, LOILEM (Route E.8) and TAUNGGYI (Route E.-1).

Length to MAN LI 52m., to LOILEM 158m., to TAUNGGYI 216½m. 4 Stages : General Direction S.

Epitome—

This is the main road from HSIPAW to LOILEM and TAUNGGYI *via* LAI-HKA. A metalled road fit for all M.T. throughout the year. For the first 8m. 3f. this road coincides with Route D.-1, Stage 8. Bridged throughout. Passes through densely forested, undulating country.

From MAN LI the route continues for 3 miles where it crosses the border into the Southern SHAN STATES, and becomes E.-8 to LOILEM. (For continuation, *see* Route book "E", Routes in Southern SHAN STATES.)

Water and Fuel—Plentiful.

Fodder—Some grazing, limited supplies of paddy and straw.

Supplies—Limited.

NOTE.—At HSIPAW this route joins Routes D.-1, D.-49 and D.-50.

Stage 1.

HSIPAW—PANG MIT.

14m. 4f.

1m.

Crosses NAM TU (450 ft. wide—unfordable) by steel girder bridge. The road then runs through teak forest and at approx.

1m. 4f.

A mule track branches off S. to SEMON on the NAM TU River.

1m. 6f.

At 1m. 6f. a stream is crossed by a wooden bridge and shortly afterwards, a large open space—the HSIPAW race-course—is passed on the L. From 3m. to 5m. 4f. the road runs parallel to the NAM TU river—almost touching it in places—with steep mountainous jungle on the R.

3m. 0f.

to

5m. 4f.

6m. 2f.

6m. 2f.

to

8m. 0f.

Bridge over NAWNGKAW stream (50 ft. × 15 ft.—unfordable).

Road runs E. parallel to NAWNGKAW stream.

ROUTE D-6—contd.

- 8m. 3f. Route D.-1 continues straight on N.E. to LASHIO.
Route D.-6 branches S.E., crosses bridge over large feeder of
NAWNGKAW stream and
- 10m. 0f. runs through villages and open paddy fields to approx.
mile 10, thence undulating through teak jungle crossing.
- 11m. 6f. NAWNGKAW stream at 11m. 6f.
- 13m. 2f. Passes NAKANG and passes through Tung Plantations
for $\frac{3}{4}$ mile on the W. of the road, arrives at
-
- 14m. 4f. PANGMIT. (Route D.-37 branches to MONG YAI.)
-

Stage 2.**PANGMIT—NA-MAKHAW.**

- 10m. 2f. The route continues S. crossing numerous small feeders
of the NAWNGKAW stream, through dense jungle on R.
more open on L. at
- 2m. 3f. NAWNGKAW, H.Q. of S.S.S. Tung Plantations. Fairly
large village, oil mill and artificial lake (15 acres).
For the next two miles the road continues through Tung
Plantations intersected with jeepable tracks and affording
good cover except in the cold weather.
- 7m. 4f. NAM-YANG. Large village. Cart road N.W. to LOI-
MAWK and HSIPAW. Cart road W. to SEMON.
- 10m. 4f. NA-MAKHAW (I.B.). A cart road branches left to join
D.-40 at
-
- 25m. 0f. MONG HKO.
-

Stage 3.**NA-MAKHAW—NAMLAN.**

- 12m. 0f. The road continues S. through hilly country and dense
jungle to NAMLAN. Route D.-40 branches L. to MAN
PAN. Route D.-41 branches R. to NAWNGPENG.
-
- 37m. 0f.
-

Stage 4.**NAMLAN—MAN LI.**

- 15m. 0f. The road continues through thinly populated, hilly
country covered with thick jungle to MAN LI.
- 15m. 0f. MAN LI. Mule Track L. to MONG TUNG.
Mule Track R. to MAN SENG.
-
- 52m. 0f.
-

Stage 5.**MAN LI—TONGLAU.**

13m.

65m.

ROUTE D-6—concl'd.**Stage 6.**

30m.

14m.

95m.

TONGLAU—MONG KUNG.

Route E.-9 an alternative route to HSIPAW, branches E. from PANKYEHTU.

Stage 7.

8m. 4f.

103m. 4f.

MONG KUNG—HONAH.**Stage 8.**

20m. 4f.

124m. 0f.

HONAH—LAI-HKA.**Stage 9.**

15m. 4f.

139m. 4f.

LAI-HKA—NAWNGLENG.**Stage 10.**

11m. 4f.

151m. 0f.

NAWNGLENG—PANGLONG.**Stage 11.**

7m. 0f.

158m. 0f.

PANGLONG—LOILEM.

For details of above see Route Book "E", route E.-8.

ROUTE D-7.**LASHIO—BAWDWIN (via NAMTU).**

Length :—57m. 6f.

5 Stages.

Epitome—

A gravelled and metalled road. Fit for M.T. throughout the year. The first 25 miles is metalled and tarred. The remaining length is surfaced with gravel and the whole road could stand up to light lorry traffic during the rains. There are light suspension bridges at miles 25 and 80 which restrict the load to 4 ton (laden) lorries.

The other major bridges consist of steel trusses but it is believed that one at least of these was blown up during the retreat.

ROUTE D-7—contd.

Passes through wooded, hilly country.

C.G.—For 1 Bn. throughout.

Water—Plentiful throughout.

Fuel—Plentiful. Previous notice required in stages 4 and 5.

Fodder—Available.

Supplies—Negligible—5th day bazaar all stages.

NOTE.—At LASHIO this route joins ROUTES D-1, D-3, D-4, D-5 and D-47. At NAMTU (stage 4) the route joins Routes D-9 and D-11. At MANSAM (stage 3) the route joins Route D-50.

Stage 1.**LASHIO—I-NAI-LON.**

- 8m. A gravelled and partly metalled road. Fit for M.T. throughout the year.
- 5f. Circular road L.
- 1m. 6f. Passes road R. to LASHIO r.s., 1m. 2f.
- 2m. 4f. Passes level crossing.
- About Crosses NAM YAO by bridge. This wooden bridge was
7m. demolished on 26/4/42.
- Road R. to HOPOK (unmetalled—12m. 4f.), (HOPOK is on Route D1, stage 12).
- 8m. Reaches **I-NAI-LON** (i.b., Shan—50h.).
- C.G.*—(a) In dry weather only, unlimited in paddy fields.
(b) For 3 Bns. round i.b., with clearing.
- Water*—Plentiful from wells and NAM YAO.
- Fuel*—Plentiful—1m. 4f. distant.
- Fodder*—Grazing for animals of 1 Bn.
- Supplies*—Negligible—5th day bazaar.

Stage 2.**I-NAI-LON—NAH-HSAI.**

- 11m. A gravelled and metalled road. Fit for M.T. throughout the year.
- 7m. Passes through wooded, hilly country.
- 7m. Road R. to MONG YIN. (Route D-8.)
- 8m. 4f. Crosses small stream by bridge.
- 19m. Reaches **NAH-HSAI** (r.s.).
- C.G.*—For 1 Bn. N.E. of r.s.
For 2 Coys. N.W. of r.s.
- Water*—Plentiful—from streams.
- Fuel*—Plentiful—(2m. distant).
- Fodder*—Grazing for animals of 1 Bn. 2m. N.E. of r.s.
- Supplies*—Negligible—5th day bazaar.

Stage 3.**NAH-HSAI—MAN SAM.**

- 10m. A metalled road. Fit for M.T. throughout the year.
- 9m. 4f. Passes through wooded, hilly country.
- 29m. Road L. to HSIPAW (Route D-50).
- Reaches **MAN SAM** (i.b.).
- C.G.*—For 1 Bn. near village.
- Water*—Plentiful.
- Fuel*—Plentiful.
- Fodder*—Sufficient for 1 Bn.
- Supplies*—Nil.

ROUTE D-7—concl'd.**Stage 4.****MAN-SAM—NAMTU.**

13m.

Metalled road. Fit for M.T. throughout the year. Passes through wooded, hilly country.

42m.

Reaches NAMTU (i.b., p.t.o., p.s., hosp., h.q., of BURMA CORPORATION).

C.G.—For 1 Bn. on hill E. of hospital.

Water—Plentiful—from NAMTU and standpipes.

Fuel—Obtainable.

Fodder—Grass obtainable—grazing for animals of 2 Bns.

Supplies—Obtainable—5th day bazaar.

Stage 5.**NAMTU—BAWDWIN.**

15m. 6f.

A gravelled and partly metalled road passable to M.T. throughout the year.

6f.

Crosses NAMTU by iron bridge (201 ft. long by 12 ft. wide by 32 ft. high).

1m. 2f.

Mule track L. to NAMWA (5m.).

1m. 6f.

Passes PANGHAI (Shan, Chinese, Indian—440h., bazaar).

57m. 6f.

Reaches **BAWDWIN** (i.b., 4,200 ft., mines distant 4m.).

C.G.—For 1 Bn.

Water—Plentiful from standpipes.

Fuel—Obtainable with previous notice.

Fodder—Sufficient for 1 Bn.

Supplies—Obtainable with previous notice. Negligible without.

ROUTE D-8.**MONG YIN—I-NAI-LON.**

Length :—

Stages.

Epitome—

There is no detailed information concerning this Route.

ROUTE D-9.**NAMTU—HSENWI (via MONG YIN).**

Length :—48 miles.

5 Stages.

Epitome—

An unmetalled cart road, fit for M.T. in dry weather in Stages 1 and 2. Stage 3 is a good mule path. Stage 4, road is indifferent and would be impassable in the rains—crossing NAM DAWNG stream (unfordable) by bamboo raft. In stage 5, road meets LASHIO-HSENWI road at HOTA and later crosses **NAMTU** river by wire suspension bridge.

C.G.—Average for 1 Bde.—those in stages 1, 3 and 4 would be flooded in rains.

E

ROUTE D-9—contd.

Water—Plentiful in stages 2 and 5, scarce and unsafe in stages 1, 3 and 4.

Fuel—Plentiful.

Fodder—Grazing good—grass scarce.

Supplies—(a) *Nil* in stages 1, 3 and 4.

(b) Small quantities of rice and paddy obtainable in stage 2.

(c) 1,500 baskets of paddy and some cattle obtainable in stage 5.

NOTE.—At NAMTU this route joins Routes D-7 and D-11.

At HSENWI this route joins Routes D-1 and D-2.

Stage 1.

NAMTU—KAWNGHKA.

8m. 4f.

A cart road fit for M.T. in the dry weather—unmetalled. Passes through wooded, hilly country.

3m. 4f.

Passes PANGGO (Shan).

Crosses NAMTU by wooden bridge.

Crosses a few other streams (no obstacles).

8m. 4f.

Reaches **KAWNGHKA** (Palaung—8h.).

C.G.—For 2 Coys. with clearing.

Water—From 2 wells in village.

Fuel—Plentiful—(4f. distant).

Fodder—Grazing for animals of 2 Coys.—Grass *nil*.

Supplies—*Nil*.

Stage 2.

KAWNGHKA—MONG YIN.

6m. 4f.

An unmetalled cart road fit for M.T. in the dry weather, through wooded country. All streams are bridged by villagers and are fordable.

3m. 4f.

Crosses NAMTU by wooden bridge (39 ft. long by 7 ft. wide by 9 ft. high).

4m.

Passes NA-NA (Shan—25h.), and crosses KAWNGO *chaung* by wooden bridge (48 ft. long by 6 ft. wide by 8 ft. high).

Crosses a pool by bridge (24 ft. long by 6 ft. wide by 4 ft. high).

15m.

Reaches **MONG YIN** (Shan—80h.).

C.G.—For 2 Bdes. E. of village.

Water—Unlimited—from the NAMTU.

Fuel—Plentiful—(2m. distant).

Fodder—Grass obtainable.

Supplies—Small quantities of rice and paddy obtainable; 50 transport bullocks obtainable.

Stage 3.

MONG YIN—MAN HIO.

10m.

A good mule road, partially bridged. Passes through scrub and *kaing* grass covered, undulating country.

1m. 4f.

Crosses NAM SAWN by wooden bridge (84 ft. long by 3 ft. wide by 12 ft. high).

2m. 2f.

Passes YUNGNAW (WENG—NAN) (Shan—40h.).

4m.

Passes PANGHKAM (Shan—18h.).

ROUTE D-9—concl'd.

5m. 2f.	Passes PANGHKAM (Shan—20h.).
25m.	Crosses many small streams—unfordable in rains.
	Reaches MAN HIO (Palaung—5h.).
	<i>C.G.</i> —For 3 Coys.—between village and road.
	<i>Water</i> —From well and stream—2f. E. of village.
	<i>Fuel</i> —From jungle.
	<i>Fodder</i> —Grazing for animals of 1 Bn.
	<i>Supplies</i> —Nil.
Stage 4.	MAN HIO—NAKYENG.
9m.	Indifferent mule road—impassable in rains. Passing through dense, hilly country.
3m.	Crosses NAM DAUNG-HOK (15 ft. wide × 1 ft. deep).
5m. 3f.	Crosses NAM GUM (36 ft. wide × 1½ ft. deep, unfordable in rains).
6m. 4f.	Crosses NAM DAWNG (78 ft. wide, 2 ft. deep, swift current) by raft. Stream is fordable above and below road crossing.
34m.	Reaches NAKYENG (Shan—8h.).
	<i>C.G.</i> —For 1 Bde. in paddy fields between village and NAMTU (dry weather).
	<i>Water</i> —From wells and NAMTU.
	<i>Fuel</i> —From jungle—1m. distant.
	<i>Fodder</i> —Grazing for animals of 1 Bn.
	<i>Supplies</i> —Nil.
Stage 5.	NAKYENG—HSENWI (THEINNI).
14m.	Fair mule road over moderately hilly, jungle-covered country.
1m. 5f.	Crosses NAM HIMLAM (bridged).
5m.	Passes MOUNG PA (Shan—20h.), here—
	<i>C.G.</i> —For 1 Div.
	<i>Water</i> —Obtainable.
	<i>Fuel</i> —Obtainable.
	<i>Fodder</i> —Obtainable.
	<i>Supplies</i> —Negligible—5th day bazaar.
6m.	Crosses NAM GOK by wooden bridge (36 ft. long by 3 ft. 6 ins. high).
6m. 7f.	Passes NAWNGMU (Shan—5h.).
10m.	Passes NAM PAWNGSOK (Shan—14h.).
12m. 4f.	Meets LASHIO-HSENWI road (D-1) at HO-TA. (Shan.).
	Thence metalled road fit for M.T.
12m. 6f.	Crosses NAMTU by iron suspension bridge (300 ft. long, 25 ft. above water). (Streams is fordable 1m. downstream.)
48m.	Reaches HSENWI (i.b.—Shan—350h.).
	Capital of NORTH HSENWI STATE.
	<i>C.G.</i> —(a) Unlimited near bridge over NAMTU.
	(b) For 1 Bn. W. of HSENWI.
	<i>Water</i> —Plentiful.
	<i>Fuel</i> —Plentiful.
	<i>Fodder</i> —Good grazing.
	<i>Supplies</i> —(a) 1,500 baskets of paddy obtainable.
	(b) Cattle obtainable with previous notice.

ROUTE D-10.

MAN TON—MONG YIN.

Length:—34m. 4f.

3 Stages.

Epitome—

A good mule track, passing through dense mountainous country. In last stage, the track is ill-defined and difficult to trace.

C.Gs.—For 2 Bdes. throughout, except Stage 1 where for 3 Bns. only.

Water—Unlimited.

Fuel—Unlimited.

Fodder—Grazing unlimited—grass obtainable.

Supplies—Nil, except Stages 2 and 3 where small quantities of paddy and rice are obtainable.

NOTE.—At MAN TON, this route joins Routes D-49, D-52 and D-56.
At MONG YIN, this route joins Routes D-8, D-9, D-12.

Stage 1.

MAN TON—KATLWI CAMP.

8m.

MAN TON (10h).

0m.

C.G.—For 1 Div. in paddy fields; in dry weather only.
For 1 Bn., scattered, in *kyaungs*, *zayats* and villages.

Water—Unlimited.

Fuel—Unlimited.

Supplies—Nil.

Good mule track. Passes through dense mountainous country.

2m.

Passes KYU-PAN.

3m.

Very steep ascent to

4m.

Passes MAN TAWP.

8m.

Reaches KATLWI CAMP.

C.G.—(a) For 3 Bns. in paddy fields (dry weather).

(b) For 200 men in village space.

(c) Temporary houses and fields for individuals.

Water—Unlimited—from streams.

Fuel—Unlimited—from jungle.

Fodder—Unlimited.

Supplies—Nil.

Stage 2.

KATLWI CAMP—MONG TAT.

14m.

Good mule track for first 5m. thence a good mule road to 11m. and again a good mule track to 14m. through dense mountainous country.

1m. 6f.

Passes KATLWI W.

2m. 2f.

Passes KATLWI E.

3m. 2f.

Passes LOILEM.

6m. 4f.

Crosses NAM HSENG (120 yds. wide—1 ft. deep rocky bed—easy approaches—unfordable in rains) by temporary bridge and follows r.b. to

11m.

Passes MONG-HSENG and recrosses NAM HSENG by ford.

ROUTE D-10—*contd.*

22m.

Reaches **MONG TAT** (20h.).

C.G.—(a) For 1 Div. in paddy fields (in dry weather only).

(b) For 1 Bn. in and near *kyaungs* and *zayats*.

Water—Unlimited—from stream.

Fuel—Unlimited—from jungle.

Fodder—Grazing plentiful—grass scarce.

Supplies—Small quantities of paddy obtainable.

Stage 3.

MONG TAT—MONG YIN.

12m. 4f.

A narrow, ill-defined mule track, almost obliterated in places with fallen leaves.

Passing through dense, hilly country.

2f.

Crosses **NAM TAT** (36 ft. wide, 1 ft. deep, stony bottom—easy approaches, might cause delay in rains).

1m. 6f.

Crosses **NAM YI** (180 yds. wide, 1 ft. deep, stony bed, difficult approaches; might cause delay in rains).

3m.

Steep and rough ascent and descent for 2m.

Crosses three other streams (no obstacle).

6m.

Passes **NA-KENG** (deserted).

9m.

Passes **HONA**.

Crosses **NAMTU** (180 yds. wide, 8 ft. deep) by ferry carrying six men. Mules must swim.

34m. 4f.

Reaches **MONG YIN** (i.b.).

C.G.—For 2 Bdes. E. of village.

Water—Unlimited—from **NAMTU**.

Fuel—Plentiful—(2m. distant).

Fodder—Grass obtainable.

Supplies—Small quantities of rice and paddy obtainable. 50 transport bullocks obtainable.

ROUTE D-11.

NAMTU—MONG YU (via NAMHAI).

Length :—57m. 4f.

6 Stages

Epitome—

A fair mule road. Passes through wooded mountainous country. Difficult in rains owing to number of unfordable streams encountered. Stage 2 is particularly bad in this respect. **NAMTU** river is crossed by iron bridge in Stage 1. Stage 5 is unfit for Pack Tpt. in its present state, but could easily be made fit.

C.Gs.—Average for 2 Bns. throughout, except Stage 5 where for 3 Coys. only.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Grazing good—grass obtainable.

Supplies—Negligible—small quantities of paddy obtainable in Stages 1, 2, 4 and 6.

NOTE.—At **NAMTU** route joins Routes D-9 and D-7.

At **MONG YU** route joins Routes D-1 and D-13.

ROUTE D-11—*contd.*

Stage 1.

NAMTU—MONG TAT.

- 10m. Fair mule track—through dense, hilly country.
Impassable in rains owing to floods.
- 2f. Crosses NAMTU river by iron bridge.
- 1m. 2f. Passes PANGHAI (Shan, Chinese, Burmese, Indians
440h.)—(5th day bazaar).
- 3m. 6f. Passes PANGLWE (Shan—15h.).
- 5m. 2f. Passes MANHPAI (Shan—7h.).
- 6m. 3f. Crosses NAM HSENG (84 ft. \times 2½ ft.—unfordable in
rains).
- 6m. 6f. Passes MONGHSENG (Shan).
- 9m. 6f. Crosses NAM TAT (unfordable in rains).
- 10m. Reaches **MONG TAT** (Shan—31h.).
C.G.—(a) For 1 Bn. in field near NAM TAT crossing;
in dry weather only.
(b) For 1 Bn. in and near village.
Water—Plentiful—from NAM TAT.
Fuel—Plentiful—from jungle.
Fodder—Grass and grazing obtainable.
Supplies—Negligible.

Stage 2.

MONG TAT—NAMHAI.

- 13m. 6f. Mule track. Passes through hilly country for 8 miles
thence over undulating country. Wooded throughout.
Impassable in rains owing to floods.
- 1m. Crosses NAM YI (105 ft. \times 12 ft.) by bamboo raft and
follows line of stream for 4f.
- 1m. 4f. Track L to LOI-YI (Kachin—7h.).
- 5m. Crosses PANGWA *chaung*.
- 7m. Passes KAWNGHKAN (Kachin—8h.).
- 7m. 4f. Passes MANLWE (Shan—6h.).
- 7m. 6f. Crosses NAM U *chaung* (fordable in rains).
- 8m. Passes MANSANG (Shan—17h.).
- 8m. 4f. Passes TAKALEK (Shan—11h.).
- 11m. 4f. Crosses NAM YI (42 ft. \times 10 ft.) by bamboo raft.
- 12m. Passes MAWTAO (Shan—47h.).
- 23m. 6f. Reaches **NAMHAI**.
C.G.—For 2 Bdes. N. of village.
Water—From irrigation channel N. of village.
Fuel—Plentiful—1m. distant.
Fodder—Grazing good. Some paddy straw obtainable.
Supplies—Paddy and rice obtainable in fairly large
quantities. 5th day bazaar.

Stage 3.

NAMHAI—PANGSAM (PANGKAM).

- 8m. 2f. Fair mule track, through dense mountainous country.
- 2m. Passes KONG NYAWNG (Shan—15h.).
- 2m. 4f. Passes TUNMONG (Shan—12h.).
- 3m. Passes MONGYAW (Kachin—7h.).

ROUTE D-11—*contd.*

3m. 4f. Passes NAWNGWUN (Shan—16h.). (MONG HAWM on Sheet 93 $\frac{E}{11}$.)

3m. 6f. Crosses NAM WAN (26 ft. \times 3½ ft. fordable).
Thence crosses many small streams and the NAM UN (fordable).

32m. Reaches **PANGSAM (PANGKAM)**—Kachin—27h.

C.G.—(a) For 2 Bdes., N. of village.

(b) For 3 Coys. in village.

Water—From wells and streams.

Fuel—Plentiful.

Fodder—Grazing obtainable.

Supplies—Negligible—small quantities of paddy, fowls and vegetables obtainable.

Stage 4.

PANGSAM—MAN NAMHSAWNGKE.

7m. 6f. Fair mule road through wooded, hilly country.

1m. 4f. Passes PANGLONG (Palaung—8h.).

3m. 6f. Passes NAM HEK (Shan—6h.).

4m. Passes NAM HAI (Shan—4h.).

7m. 4f. Crosses NAM HSAWNG *chaung* (fordable in rains).

39m. 6f. Reaches **MAN NAMHSAWNGKE** (Shan—11h.).

C.G.—For 1 Bde. between village and NAM YI.

Water—From NAM YI.

Fuel—Plentiful.

Fodder—Good grazing along NAM YI.

Supplies—Negligible—5th day bazaar.

Stage 5.

MAN NAMHSAWNGKE—PANGKAT.

(LONGKAM on Sheet 93 $\frac{E}{10}$.)

9m. 2f. Mule track (at present impassable to pack Tpt.).
Through dense mountainous country. Rocky ascent for 2m. 6f.

3m. Passes NAMKAU (MAN NAMPIN on Sheet 93 $\frac{E}{10}$).
(Palaung—7h.)

3m. 3f. Crosses NAM TAIKAO by wooden bridge (36 ft. \times 6 ft. \times 7 ft. high).

3m. 4f. Road L to NAMHO-YI (Kachin).

5m. 4f. Passes L of MANG PU (Palaung).

7m. 4f. Crosses NAM HPAO by wooden bridge (42 ft. long by 6 ft. wide by 15 ft. high).

Thence rises 1,000 ft. to

49m. Reaches **PANGKAT (LONGKAM) CAMP.**

C.G.—For 3 Coys.

Water—From four wells—obtainable throughout the year.

Fuel—Plentiful.

Fodder—Grazing good—grass *nil*.

Supplies—Negligible—25 baskets of paddy obtainable.

ROUTE D-11—concl'd.

Stage 6.

PANGKAT (LONGKAM)—MONG YU.

8m. 4f.

Mule track. Passes through dense mountainous country for 7 miles thence through scrub jungle. Tps. could operate off the latter part of the road to a limited extent. From C.G. route descends.

3m. 2f.

Crosses NAM PAU by wooden bridge (42 ft. long by 6 ft. wide by 12 ft. high).

Thence steep ascent to

5m. 6f.

Whence gradual descent for 2 miles thence level to

57m. 4f.

Reaches **MONG YU** (Shan, Chinese—32h.).

C.G.—For 1 Div. S. of village.

Water—From NAM MAW.

Fuel—Obtainable with notice.

Fodder—Good—obtainable along NAM MAW.

Supplies—Negligible—small quantities of paddy, fowls, eggs and vegetable obtainable. 5th day bazaar.

ROUTE D-12.

MONG YIN—MONG WI.

Length :—44m. 2f.

4 Stages.

Epitome—

A fair mule road—slippery—much covered with *kaing* grass after the rains. All streams unbridged but fordable—NAMTU crossed in Stage 1 by ferry for 6 men; Mules must swim.

C.Gs.—Average for 1 Bn. except Stage 4 where for 1 Div. No i.bs.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Obtainable—grass.

Supplies—Nil, except small quantities of paddy and vegetables in Stages 1 and 4.

NOTE.—This route at MONG YIN joins Routes D-8, D-9, D-10 and at MONG WI joins Routes D-13, D-14 and D-51.

Stage 1.

MONG YIN—HSAI-HKAO.

14m. 4f.

MONG YIN.

0m.

C.G.—For 2 Bdes. E. of village.

Water—Unlimited.

Fuel—Plentiful—2m. distant.

Fodder—Obtainable—grass.

Supplies—Small quantities of rice and paddy procurable.

A fair mule track. Passing through scrub, covered hilly country.

2m.

Crosses NAMTU (180 ft. × 8 ft.) by ferry carrying six men—Mules must swim.

Passes MAN-AI (Shan).

ROUTE D-12—contd.

6m.	Track branches to KAIDAW.
7m.	Passes HSAM PU (Kachin—10h.).
10m. 4f.	Passes LOI-LEM (Kachin, Palaung—26h.).
13m. 4f.	Passes PANGKANG.
14m. 4f.	Reaches HSAI-HKAO (HSEN KAU—Shan 7h.).
	C.G.—For 1 Bn. round village with clearing.
	Water—Plentiful—from wells.
	Fuel—Plentiful—from jungle.
	Fodder—Plentiful—grass.
	Supplies—Small quantities of paddy and vegetables.
	5th day bazaar.

Stage 2.

HSAI-HKAO—PANGKUT.

8m. 4f.	Fair mule track through scrub covered undulating country.
1m. 4f.	Branch track to MANPAT.
3m. 6f.	Passes NAUNG (Kachin—4h.).
6m.	Passes PANGNYO (Palaung—8h.).
About 8m. 3f.	Passes PANGKUT (Shan and Palaung—6h.).
23m.	Reaches PANGKUT (Maru—10h.).
	C.G.—For 1 Bn. round village with clearing.
	Water—Plentiful from well.
	Fuel—Plentiful.
	Fodder—Scarce—a little grass.
	Supplies—Nil.

Stage 3.

PANGKUT—NAMHO-YI.

10m. 6f.	A fair mule track. Impassable to mules after rains unless <i>kaing</i> grass is cleared.
4m. 6f.	Passes MAN MAU (Palaung—5th day bazaar).
5m. 6f.	Fords NAM YI (48 ft. wide by 2 ft. deep).
7m.	Passes HKAYI (Maru—5h.), from here 2 roads to PANG-KUT (a) <i>via</i> MAN MAU.
	(b) <i>via</i> NAM HSAWNGKE.
8m.	Fords NAM YI (45 ft. wide by 1 ft. deep).
33m. 6f.	Reaches NAMHO-YI .
	C.G.—For 1 Bn. N. W. of village in paddy fields (dry weather).
	Water—Plentiful—from stream.
	Fuel—Obtainable— $\frac{1}{2}$ m. upstream.
	Fodder—Good grazing.
	Supplies—Nil.

Stage 4.

NAMHO-YI—MONG WI.

10m. 4f.	A fair mule track. Passing through thick <i>kaing</i> grass for $4\frac{1}{2}$ m. thence through dense jungle.
2m. 4f.	Track to PANG-U.
4m. 4f.	Passes JENOI (Kachin—12h.).
8m. 4f.	Passes PANGHANG (Palaung).
44m. 2f.	Reaches MONG WI . (Shan, Chinese, Palaung—65h.)
	C.G.—For 1 Div. in paddy fields N. of village in dry weather only.

ROUTE D-12—concl'd.*Water*—Plentiful—from streams.*Fuel*—Plentiful.*Fodder*—Good grazing obtainable.*Supplies*—200 baskets of paddy obtainable. 5th day bazaar. Fifty transport bullocks obtainable.**ROUTE D-13.****MONG WI—MONG YU.**

Length :—22m. 4f.

2 Stages.

Epitome—

A good mule track through mountainous wooded country.

NOTE.—At MONG WI the route joins Routes D-12, D-14, D-51.

At MONG YU the route joins Routes D-11 and D-1.

Stage 1.**MONG WI—NAMMA.**

9m.

A good mule track passing through mountainous, wooded country. Ascends for 1m. 4f. and thence descends to

2m.

Crosses NAM TI (17 ft. wide, 2 ft. deep—unfordable in rains).

3m.

Thence steep ascent to

4m. 4f.

Passes MAN HPE (Kachin—4h.).

4m. 7f.

Passes NAM SANG—(Palaung—10h.).

Passes TUNHONG (Palaung 14h.).

9m.

thence undulates to

Reaches **NAMMA** (Lissu—11h.).*C.G.*—For 3 Coys. near village.*Water*—Plentiful—from stream.*Fuel*—Scarce.*Fodder*—Good.*Supplies*—Nil.**Stage 2.****NAMMA—MONG YU.**

13m. 4f.

A good mule track. Passes through undulating grass-covered country.

2m.

Passes PANGKUNG (Chinese—3h.).

2m. 2f.

Crosses NAM PAN (fordable in rains.).

5m. 4f.

Passes MAN UNG (Palaung—8h.).

8m.

Crosses NAM PAN again by bamboo bridge (60 ft. long by 6 ft. wide by 5 ft. high).

10m. 2f.

Road S. to NAMTU (D-11) thence descends to

22m. 4f.

MONG YU (Shan—Chinese—32h.).*C.G.*—For 1 Div. S. of village.*Water*—From NAM MAW.*Fuel*—Obtainable with notice.*Fodder*—Good; obtainable along the NAM MAW.*Supplies*—Negligible. Small quantities of paddy, fowls, eggs and vegetables obtainable. 5th day bazaar.

ROUTE D-14.

MONG HKAK—MONG WI.

Length :—18m.

1 Stage.

Epitome—

NOTE.—At MONG HKAK this route joins Route D-49.

At MONG WI this route joins Routes D-12, D-13, D-51.

Stage 1.

MONG HKAK—MONG WI.

- 18m. A good mule track. Passes through mountainous, wooded country.
- 6m. Passes TUNPOK—thence steep ascent to
- 8m. 4f. Passes LUNGSONG (Palaung—12h.). Thence through *kaing* grass to
- 10m. Crosses NAM SONG by bamboo bridge (10 ft. × 2 ft. × 6 ft. high). Thence ascends for 1m., thence level to
- 12m. Passes TA-PONG (Palaung—29h.).
- 16m. Passes HSUNNING (Kachin—6h.).
- Crosses NAM WI *charung* (135 ft. × 8 ft.—fordable in dry weather) by bamboo raft carrying 8 men.
- 18m. Reaches MONG WI (Shan, Chinese, Palaung—65h.).
- C.G.—For 1 Div. in paddy fields N. of village.
- Water—Plentiful from streams.
- Fuel—Plentiful.
- Fodder—Obtainable—grazing.
- Supplies—200 baskets of paddy. 5th day bazaar. 50 Tpt. bullocks obtainable.

ROUTE D-15.

NAM HPAKKA—NAMHKAM.

Length :—20m.

2 Stages.

Epitome—

NOTE.—At NAM HPAKKA this route joins D-1 and at NAMHKAM it joins D-2A, D-51 and D-56.

Stage 1.

NAM HPAKKA—MAO HSAO.

- 8m. A mule track—unfit for carts—very steep in places (gradient 1/5). Passes through dense mountainous country.
- C.G.—For one Bde. W. of village near market.
- Water—Plentiful.
- Fuel—Plentiful.
- Fodder—Fair grazing but no grass in hot weather.
- Supplies—Negligible.

ROUTE D-15—*contd.*

Stage 2.

MAO HSAO—NAMHKAM.

12m.

Track and country as in Stage 1.

4m.

Path L to MAN AWN (Palaung). Here is C.G. for 100 men and numerous *zayats* for a further 100 men.

20m.

Reaches **NAMHKAM** (p.o., hospital).

C.G.—(a) For 2,000 men in paddy fields in dry weather and in 4 huge *zayats* in village.

(b) For 800 men at NAWNGSANG 1m. E.N.E. on slightly rising ground near American Baptist School. Here 3 large wooden buildings and C.G. near village.

Water—Plentiful.*Fuel*—Scarce—previous notice required.*Fodder*—Good grazing (a) in NAMHKAM.

(b) near NAWNGSANG.

Supplies—Paddy and rice very plentiful. Meat, etc., obtainable with previous notice. Small quantities of other forms of supplies obtainable from Bazaar.

ROUTE D-16.

SE-LAN—PANGLAW (KAWNGHKA).

Length :—12m.

1 Stage.

Epitome—

NOTE.—At SE-LAN this route joins Route D-2A.

At PANGLAW this route joins Routes D-1 and D-21.

Stage 1.

SE-LAN—PANGLAW.

12m.

A mule track.

0m.

SE-LAN.*C.G.*—For 1 Bde. on plateau 100 yds. E. of village.*Water*—Plentiful from stream.*Fuel*—Scarce—a little wood obtainable from village.*Fodder*—Good grazing.*Supplies*—30 baskets of paddy only.

12m.

Reaches PANGLAW (Palaung—18h.).

C.G.—For 2 Bns.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Plentiful.*Supplies*—Nil.

A similar mule track joins MAN WING (two miles S. W. of MU-SE) and KAWNGHKA (or PANGLAW).

The triangle made by the "BURMA" road and the BHAMO road is a net-work of mule tracks joining these two roads.

ROUTE D-17.

MU-SE—MA-LI-PA.

Length :—103m. 0f.

12 Stages.

Epitome—

A fair mule track in Stages 1-3. Thence excellent mule track except Stage 7 where very slippery and difficult after rain. Stage 12 is steep and rough though good and passable to pack Tpt.

C.G.—(a) For 1 Bde. up to Stage 4.

(b) Limited from Stages 5 to 10.

(c) For 1 Bde. in Stages 11 and 12.

Water—Plentiful—except Stage 10.

Fuel—(a) Scarce—Stages 1-3.

(b) Plentiful—Stages 4-12.

Fodder—Fair grazing—grass scarce.

Supplies—Very limited.

NOTE.—At MU-SE this route joins D-2A.

At MA-LI-PA this route joins Routes D-21 and D-25.

At KYU-HKOK this route joins Route D-1.

At HPAWNGHSENG and also at KSIAO-KAI-HI this route joins D-18.

At PANG LONG this route joins D-19.

Stage 1.

MU-SE—KYIN YANG.

10m.

A fair mule road—parts of which would be difficult after rains. Leaving camp the route undulates over open country.

1m. 4f.

Branch track R. to HONA (1m. distant).

3m.

Passes WINGMAU.

Crosses shallow ford (difficult after rain).

Crosses NAM PAN (difficult after rain).

3m. 4f.

Crosses small stream just before entering NAMHSUN.

Follows NAM YANG (here the boundary between BURMA and CHINA).

8m.

Passes KAWNGKAWNG.

9m.

Passes LAWN-EN (Shan—40h.).

10m.

Reaches **KYINYANG**.

C.G.—For 1 Bde. N.E. and E. of village.

Water—Plentiful from NAM HKAN.

Fuel—Wood from jungle S. of road.

Fodder—Grass, and a little paddy straw obtainable.

Supplies—Negligible—100 baskets of paddy.

Stage 2.

KYINYANG—KYU-HKOK (on BURMA road).

4m. 4f.

A fair mule track running through a narrow valley, with a chain of wooded knolls R. with deep ravines, follows the line of the NAM YANG.

2m. 0f.

There is *C.G.*—For one Bde.

Water—From NAM YANG.

Fuel—Plentiful.

Fodder—Good grazing.

Supplies—Nil.

ROUTE D-17—contd.

- 4m. Old road branches L. through Chinese territory near B.P.50. The route continues along the river.
 4m. 4f. KYU-HKOK (Route D-1, i.b.).
 C.G.—For 2 Bns.
 Water—Plentiful.
 Fuel—Plentiful.
 Fodder—Scanty.
 Supplies—Enough for 500 animals.
-
- 14m. 4f.

Stage 3.**KYU-HKOK—MONG LONG.**

- 9m. A fair mule track, very difficult in places, winding gently up the valley and then through hilly country.
 1m. Crosses small stream, by log bridge.
 2m. Crosses HKA HPO by log bridge (16 ft. long). A ford immediately below bridge (6 ft. deep, stony bed).
 2m. 4f. Crosses HKA-SAUGH-KARAO by log bridge (20 ft. long—4 ft. above the water). A ford immediately above bridge (4 ft. deep, stony bed). Thence steep ascent through thick jungle crossing several streams—surface bad.
 5m. Passes B.P. 52 through extensive poppy cultivation, surface very bad.
 7m. Reaches crest and descends.
 8m. Crosses stream in deep nullah. Thence another steep ascent; at 8m. 4f. reaches crest and descends to
 23m. 4f. **MONG LONG.**
 C.G.—For 1 Bde. on grassy slopes N. of village.
 Water—Plentiful from stream.
 Fuel—Scarce—obtainable from jungle 1/2m. distant.
 Fodder—Excellent grazing.
 Supplies—Nil. Little paddy only. 5th day bazaar.

Stage 4.**MONG LONG—PANGLONG (MONG KO).**

- 8m. Excellent mule track.
 Passes through hilly country. Descends and crosses NAWHKU-HKA by wooden bridge.
 1m. Passes LAWKU (Kachin).
 3m. 4f. Crosses small stream by plank bridge. Thence ascends in steep zig-zags, crosses a ridge and descends through tree jungle to NAM YANG. Thence across paddy fields to
 31m. 4f. **PANGLONG (MONG KO).**
 C.G.—For 1 Bde. between market place and river.
 Water—Plentiful.
 Fuel—Obtainable—1/2m. distant.
 Fodder—Coarse grazing only.
 Supplies—Nil. 5th day bazaar.

Stage 5.**PANGLONG—HPAUNGHSENG.**

- 12m. Excellent mule track, through hilly country. From PANGLONG turns S.E. across level plain to
 1m. Thence across spur and descends to cross KAWNG-LONG HO by shallow ford 10 ft. x 3 ins. shingle bed). Here track S. to HPAU-SUNG (Kachin) 2m. distant.

ROUTE D-17—contd.

5m. 4f. Crosses stream by covered, wooden bridge (55 ft. x 10 ft. high). (Stream unfordable, with rapid current).

(A ford below bridge—shallow—easy crossing in dry weather).

Thence a steep zig-zag ascent (1m. 4f. W. of PANGH SUTAI—Palaung) through wooded country to junction with old road S. of PANGWA (Chinese). Thence turns E.

10m. 4f. Passes NAWNGSONG. Thence continues to ascend through jungle.

11m. 4f. Road descends to

43m. 4f. **HPAWNGHSENG.**

C.G.—Limited. For 1/2 Bn. on plateau W. of village and on knoll S.W. of village.

Water—Sufficient; from 2 small streams.

Fuel—Plentiful.

Fodder—Scarce.

Supplies—Nil. A few pigs and fowls obtainable.

Stage 6. HPAWNGHSENG—SALWEEN RIVER.

10m. 4f. Good mule track passing through wooded, hilly country with patches of open land.

1m. 4f. Crosses small stream by plank bridge.

Descends to valley and passes round foot of conspicuous triangular-shaped hill through a thickly wooded defile, and follows left bank of NAM MELI HO.

4m. Crosses NAM MELI-HO by ford (6 ins. deep; pebbly bed). Thence steep ascent to

5m. 4f. Passes PANG SIROP (Shan) and descends passing E. of LOIHSENG. Thence steep ascent to

7m. Passes PANGKAW, thence descends steeply to

8m. Passes NAUNG CHIO. Thence through open grass land to

9m. A very steep descent through thick bamboo jungle to cross SALWEEN river by 3 rafts and 1 dug-out.

54m. 0f. **SALWEEN CAMP** on east bank.

C.G.—Very limited; for 2 Coys. only.

Water—Plentiful from SALWEEN.

Fuel—Plentiful.

Fodder—Plentiful—bamboo leaves.

Supplies—Nil.

Here the path enters the SHAN State of KO KANG.

Stage 7. SALWEEN—NAM HKAW.

7m. A fair mule road. Very steep in parts and slippery after rain. Through dense, hilly country for 5m. thence open country.

Road runs along east bank of SALWEEN to

4f. Crosses small stream and turns S. climbing, by steep ascent to top at

4m. 4f. Thence through a gap into narrow valley passing—

(a) L a big crested stone hill.

(b) R a flat round hill.

ROUTE D-17—contd.

5m. 4f.	Crosses ridge through another gap and descends to
7m.	Crosses NAMHKAW (Shallow—wide, stony bed).
61m. 0f.	NAM HKAW (on both banks of stream).
	<i>C.G.</i> —For 1 Bn. on r.b. immediately S. of stone-capped conical hill.
	<i>Water</i> —Plentiful from NAM HKAW.
	<i>Fuel</i> —Plentiful.
	<i>Fodder</i> —Scarce—jungle grazing.
	<i>Supplies</i> —Negligible. Small quantities of paddy and rice and a few pigs obtainable.

Stage 8.

NAM HKAW—MAN HSA.

11m.	An excellent mule track. Passing through hilly country. From NAM HKAW road bears S. and ascends to a wooded gap, thence level for 1m. and descends again.
3m.	Passes PANGHAI.
3m. 4f.	Crosses small stream (swift current).
	Ascends and passes PANGHAI (Chinese—MANWANHSAN on sheet 93-I).
5m. 4f.	Crosses a branch of NAM NGE. Thence steep ascent up spur of hill, N. of NAM HKE valley, to top at
7m. 4f.	Thence steep descent to
8m. 4f.	Crosses branch of NAM HKE (fordable).
	Road bears E. and at
9m. 6f.	Passes MAN MAW (Palaung).
10m. 2f.	Passes MAN HSA (W.).
10m. 4f.	Crosses small stream by ford. Thence steep zig-zag ascent to
72m. 0f.	MAN HSA (E.).
	<i>C.G.</i> —(a) For 2 Coys.—on slope S.W. of village.
	(b) For 1 Bn. on plateau 600 yds. S. of village.
	<i>Water</i> —(a) From spring N.W. of village and pond.
	(b) From small stream.
	<i>Fuel</i> —Plentiful.
	<i>Fodder</i> —Good grazing.
	<i>Supplies</i> —Nil.

Stage 9.

MAN HSA (E.)—HSIAO-KAI-HI.

9m.	A good mule track. Difficult in rains as the NAM HPA is crossed several times.
	Passes through very hilly country.
4m.	Passes KYEINGYE (Las) thence steep descent to
6m. 5f.	Junction of small stream and NAM HPA. Thence along spurs above r.b. of river and descends to
7m. 4f.	Crosses NAM HPA at its junction with TINGMA HO.
	Thence follows i.b. of river crossing and recrossing a loop in it—(at each ford river is 45 ft.—60 ft. × 2 ft. big shingle bed—no obstacle except in rains).
8m. 4f.	Road turns L. to HSIAO-KAI-HI.

ROUTE D-17—contd.

81m. 0f.

HSIAO-KAI-HI.*C.G.*—For 2 Bns. in paddy-fields between road and river.*Water*—Plentiful from NAM HPA.*Fuel*—Plentiful.*Fodder*—Good grazing.*Supplies*—Nil.

Stage 10.

HSIAO-KAI-HI—MAN LAW.

6m.

A good mule track (very steep and slippery after rain) through dense country. Rises steeply for 1,000ft. and then continues S. parallel to NAM HPA for 2m. and crosses NAM MUSHINKOU by covered wooden bridge 40ft. long, thence by steep ascent.

5m.

Passes MAN LAW (Palaung—20h).

87m. 0f.

MAN LAW (Chinese, Shan—20h).*C.G.*—Very limited. For 2 Coys. on slopes N. and N.E. of village.*Water*—Scarce—from spring 100 yds. S.E. of camp.*Fuel*—Plentiful.*Fodder*—Scarce—a few bamboo leaves.*Supplies*—Negligible. A few pigs and fowls obtainable.

Stage 11.

MAN LAW—WAN TA-SHUI-T'ANG.

8m.

A good mule track over hilly country. Leaving MAN. LAW ascends steeply to

1m.

Passes through wooded gap—then short descent, and rises again—road reinforced by stone causeway.

3m.

Starts steep descent in long loops.

5m.

Reaches small valley—here a branch road L. to WAN NANKO (Chinese—1m. distant.)

95m. 0f.

Thence passes over gap in ridge and winds down to **WAN TA-SHUI-T'ANG.** (200h.)

C.G.—For 1 Bde. N.E. of village along banks of stream.*Water*—Sufficient from stream.*Fuel*—Plentiful from village.*Fodder*—Good grazing.*Supplies*—Negligible. 50 baskets of paddy. 5th day bazaar.

Stage 12.

WAN TA-SHUI-T'ANG—MA-LI-PA.**(TAWNIO OR KO KANG).**

8m.

A good mule track—steep and rocky in last descent to plain. Fairly open mountainous country for 4m. thence through dense wooded hills to the plain.

Crosses range of low hills to

1m. 4f.

Thence steep ascent through hilly country much intersected by ravines, descends a gorge to

3m.

Crosses small stream and again ascends.

3m. 4f.

Commences steep, rocky, zig-zag descent, passable to pack Tpt.

ROUTE D-17—concl'd.

- 4m. Passes WAN SHIHFANG and WAN LAOWANG-CHAI. Thence through narrow gap under precipitous cliffs through densely wooded country to the plain.
- 103m. Of. **MA-LI-PA** 3,200 ft. (Chinese—on KUNLONG trade route—an important centre, very dirty).
- C.G.*—For 1 Bde. on N.E. side, just above TAWNIO stream. Near TA-SHUI-T'ANG—MA-LI-PA road in dry weather.
- Water*—Plentiful—(a) from spring near TAWNIO.
(b) from TAWNIO stream.
- Fuel*—Unlimited timber in vicinity.
- Fodder*—Good grazing.
- Supplies*—Small quantities—paddy, rice, goats and fowls obtainable—also other supplies, vegetables, etc. from MA-LI-PA bazaar.
- Supplies of paddy etc.; for any large force obtainable with previous notice.

ROUTE D-18.

HPAWNGHSENG—HSIAO-KAI-HI (via CHUN PANG)

Length :—48m. 4f.

6 Stages.

Epitome—

A mule track. Little used as a trade route. Only suitable for a small force.

Stage 1—very slippery and therefore difficult in rains. Stages 3—7 only a jungle mule track and impassable in rains. Very severe gradients in places.

Not a good road.

C.G.—Mostly very small and restricted.

Water—Obtainable—all stages.

Fuel—Plentiful all stages except Stage 5.

Fodder—Scarce and poor except Stages 5 and 6 where grazing plentiful.

Supplies—Limited. Not obtainable for a large force even with previous notice.

NOTE.—At HPAWNGHSENG (and also at HSIAO-KAI-HI) this route joins Route D-17.

Stage 1.

HPAWNGHSENG—HKAWHTUHSAN.

11m.

A good mule track, but entails much climbing up and down. For some way it follows the S. side of NAM PAWN valley.

About 2m. Steep ascent.

About 4m. Steep ascent. Thence through largely open country in long ascents and descents.

About 7m. 6f. Ascent through dense jungle to PAWANG (Kachin—20h).

ROUTE D-18—contd.

- About 8m. 6f. Reaches the top and continues along ridge to
 11m. **HKAWHTUHSAN** (Kachin—25h).
C.G.—Very limited (a) For 100 men in village.
 (b) For 100 men in old earthwork E. of village.
Water—Good—from well—150ft. down N. side.
Fuel—Plentiful.
Fodder—Limited. From jungle.
Supplies—Scarce. Small quantities of paddy, rice,
 fowls and pigs. Small 5th day bazaar.

Stage 2.

HKAWHTUHSAN—MAN-PANG.

- 5m. A good mule track passing through dense hilly country
 to, and across the SALWEEN. Thence through open
taungya covered hill country.
 2m. 6f. Reaches SALWEEN (240ft. wide×40ft. deep—4 m.p.h.
 current—runs between high wooded banks). Crossed by
 ferry (not good—landings very rocky—one long dug-out
 only—capacity: 4 passengers—5 mule loads—animals must
 swim—very slow crossing *i.e.*, for 21 men, 1 pony and 23
 pack mules—2 hours—from arrival at one bank to leaving
 the other). There is a ferry house on W. bank, near ferry
 but it is advisable to bring men from HKAWHTUHSAN.
 On r.b. a fair sized sandbank for small C.G. Large C.G. $\frac{1}{2}$ m.
 down stream in paddy-fields. From river road climbs
 steeply to
 16m. **MAN-PANG.** (Palaung—8h; r.h., *kyauung*; *zayat*).
C.G.—For 200 men near road just before entering village.
Water—Good. From 2 springs (a) by *kyauung*.
 (b) 300 yds. along path N. side of spur.
Fuel—Plentiful.
Fodder—Poor grazing—near camp.
Supplies—Scarce—a little paddy rice.
 Here the track enters the SHAN State of KO KANG.

Stage 3.

MAN-PANG—CHUN PANG.

- 8m. A good mule track, running in a semi-circle, in the
 middle of which is a deep ravine, through hilly country.
 From MAN-PANG road ascends and at
 1m. Reaches a Col., bears L and continues.
 2m. Passes PAN-KU (Palaung—3h).
 4m. 2f. Passes SIN-SANG (10h).
 24m. Reaches **CHUN PANG** (Palaung—30h; *kyauung*).
C.G.—For 200 men in field near village.
Water—Sufficient for above force—from spring N. down
 the hill.
Fuel—Sufficient for above—for 2 days. Not very plenti-
 ful.
Fodder—Very restricted—scarce.
Supplies—Negligible. Small quantities of paddy, rice,
 fowls and eggs obtainable. A little more could be obtained
 with previous notice.

ROUTE D-18—*concl'd.*

Stage 4.

CHUN PANG—MAN HPANG.

4m. 4f.

This stage can be combined with Stage 3 if so desired. A fair mule track with very steep descent to, and steep ascent from the NAM HPANG. Trying in dry season, very difficult in rains.

2m. 4f.

Crosses **NAM HPANG** (swift current—about 18 ins. deep—fordable) by roofed wooden bridge (51ft. long×5ft. wide).

28m. 4f.

MAN HPANG (Palaung—15h; *kyaung*).

C.G.—For 200 men E. of village.

Water—Sufficient—available.

Fuel—Limited in vicinity. Notice required.

Fodder—Poor grazing—on hills.

Supplies—Negligible. Limited quantities of paddy, rice, fowls and eggs.

Stage 5.

MAN HPANG—TA MAN NAWNG.

10m.

A fair mule track—mainly along ridge—through fairly open country—some steep gradients.

2m.

Passes 2 small villages—R. and below.

4m. 4f.

Reaches top of ridge—thence continues along it with several steep descents.

6m.

Crosses a saddle and thence steep descent zig-zagging to

8m.

Where it descends a spur to

38m. 4f.

Reaches **TA MAN NAWNG** (Palaung—15h; *kyaungs*; *zayats*, 2 small r.hs.).

C.G.—(a) For 400 men N. of village on broad spur.

(b) For 100 men S. of village.

Water—From spring 400 yds. S. of village along MAN-LAW road.

Fuel—Limited—previous notice required.

Fodder—Plentiful but poor—on hills.

Supplies—Negligible. Small quantities of paddy, rice, fowls and pigs.

Stage 6.

TA MAN NAWNG—HSIAO-KAI-HI.

10m.

No information available about this stage. Road and country probably very similar to previous stages.

48m. 4f.

HSIAO-KAI-HI.

C.G.—For 2 Bns. in paddy-fields (in dry weather) between road and river.

Water—Plentiful from NAMHPA.

Fuel—Plentiful.

Fodder—Good grazing.

Supplies—Nil.

ROUTE D-19.

PANGLONG (MONG KO)—NATI.

Length :—77m.

8 Stages.

Epitome—

A good mule track to Stage 3 and thence fair. In Stage 7 route is difficult. Stage 8 in its present state is impassable to pack Tpt. All the larger streams crossed would be impassable after heavy rains.

C.G.—Average for one Bn. throughout.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Obtainable—grass and grazing.

Supplies—Negligible.

NOTE.—At PANGLONG this route joins Route D-17. At NATI this route joins Routes D-2 and D-22. At MONG SI this route joins Routes D-21 and D-23 and at MAN SE D-20.

Stage 1.

PANGLONG—PANGLOM.

7m.

A good mule track, passing through wooded, hilly country. Runs level through open country to

1m.

Thence turns S. and ascends to

3m. 6f.

Passes HAPU-SUNG (Kachin, Chinese—10h).

A road also branches R. to MAN CHAK.

Continues S. undulating to

7m.

Reaches **PANGLOM** (Maru-Lashi—22h).

C.G.—For 1 Bn. in and around village.

Water—Available.

Fuel—Plentiful.

Fodder—Plentiful.

Supplies—Negligible. 30 baskets of paddy, a few fowls, eggs and beef from 5th day bazaar.

Stage 2.

PANGLOM—MAN SE (MONGYA).

11m.

Road and country as in Stage 1.

2m.

Passes LOIKANG (Lashi—19h).

2m. 6f.

Crosses NAM YINWA (30ft. × 2ft.—fordable in rains).

4m.

Passes PANGHSACK (Kachin). Thence steep descent, past BAN LUN (Shan—14h) to

6m. 6f.

Passes NAHSANG (Shan—14h).

7m. 6f.

Passes MAN HIN (Shan—27h) level ground, thence along 1 b. of NAM MWE to

9m. 2f.

MAN MAU (Kachin—11h—A.B.M. School).

Thence continues level to

18m.

Reaches **MAN SE (MONGYA)**.

C.G.—For 2 Bdes.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Grazing in paddy-fields.

Supplies—500 baskets of paddy, 5th day bazaar.

ROUTE D-19—*contd.*

Stage 3.

MAN SE—MONG HAWM.

7m. 4f.

Track and country as in Stage 1.

1f.

Crosses NAM MWE by wooden bridge (126ft. \times 6ft. \times 12ft. high).

1m.

Passes MAN HPA (Shan—13h).

2m. 2f.

Passes MAN SANG (MAN MAU on sheet 93-1) (Shan—6h). Thence runs between hills with easy gradients bordering cultivation to

25m. 4f.

MONG HAWM (Shan, Kachin, Palaung—58h).

C.G.—(a) Unlimited—after harvest in paddy-fields.

(b) For 1 Bde. in and around village.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Grass and paddy; straw obtainable.

Supplies—150 baskets of paddy and few fowls, eggs and some beef obtainable.

Stage 4.

MONG HAWM—NAW LAUNG

(MAN NAWNG LAO on sheet 93-1).

10m.

A fair mule track through hilly, wooded country. Climbs for 2f. thence level to

1m. 4f.

Passes the NAM HKEK.

2m.

Passes MAN KAWNG (Shan—17h).

3m.

Branch road R. to PANGHSUNYA (Kachin, Chinese—14h).

5m.

Passes NAMSAMHU (Palaung—16h).

6m. 2f.

Passes NAMHSAWNGHKO (Kachin—18h).

7m. 6f.

Crosses NAWNCHOI *chaung* (fordable in rains), thence undulates to

35m. 4f.

NAW LAUNG (MAN-NAWNG-LAO) (Palaung—11h).

C.G.—For 1 Bn. S. W. of village.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Obtainable—grass and grazing.

Supplies—Negligible—50 baskets of paddy obtainable.

Stage 5.

NAW LAUNG—MONG SI.

7m. 6f.

A good mule track through scrub covered hilly country. Gently descends to

1m. 2f.

Reaches NAM LING (MAN WAN on sheet 93-1) and follows r.b. to

3m. 2f.

Crosses NAM LING (54ft. \times 1½ft.—fordable in open season).

5m. 6f.

Branch road R. to NAMLEK; thence undulates to

43m. 2f.

MONG SI (Shan, Kachin, Chinese—55h).

C.G.—For 1 Div. S. of village.

Water—Plentiful from *chaung* and wells.

Fuel—Plentiful.

Fodder—Grass and grazing obtainable; paddy straw plentiful.

Supplies—A fair quantity of paddy, also a few fowls, eggs, and vegetables. 5th day bazaar.

ROUTE D-19 —concl'd.**Stage 6.****MONG SI—MONG HTAM.**

- 8m. 2f. Road as in Stage 5.
 3m. 6f. Road passes N. of MAN HOHKANG (Shan—20h).
 4m. 6f. Passes MAN NAWKKIN (Kachin—10h).
 6m. 6f. Passes MAN NAWNGHKAI (Palaung, Chinese—25h).
 51m. 4f. **MONG HTAM** (Shan—30h).
C.G.—For 1 Bn.
Water—Plentiful from stream flowing through village.
Fuel—Plentiful.
Fodder—Grass obtainable.
Supplies—Nil.

Stage 7.**MONG HTAM—LOI PANGHSAN.**

- 13m. In this stage the route is difficult.
 1m. Crosses NAM TAM. Here passes MAN NAMPING (Shan).
 5m. Thence through open country to MAN NAHKAI (Shan, Palaung—25h).
 7m. Passes MAN MAWLOI (Palaung—17h). Thence crosses saddle, and later crosses NAM HANG.
 Thence again ascends to
 64m. 4f. Reaches **LOI PANGHSAN** (Palaung—20h).
C.G.—For 1 Bn.
Water—Plentiful.
Fuel—Plentiful.
Fodder—Negligible.
Supplies—Negligible.

Stage 8.**LOI-PANGHSAN—NATI.**

- 12m. 4f. The road in its present state is impassable to Pack Tpt.
 1m. 4f. Crosses small stream. Thence ascends to
 5m. Passes MANCHU (Lisu—20h), here road turns S. E. at
 8m. 4f. Passes MONGMIT (Kachin—20h).
 9m. 4f. Passes PANGSAK (Kachin—10h).
 12m. 4f. Crosses NAM NIM (NATI). No bridge—fordable in dry season.
 77m. 0f. **NATI** (Shan—36h). 200 yds. beyond and 40ft. above right bank of river on small plateau; 300 yards from ford.
C.G.—(a) For 1 Coy. on left bank, could be extended with clearing.
 (b) For 1 Coy. on right bank—S. of village and above it with clearing.
 (c) Unlimited in fields N. of village in dry weather.
Water—Plentiful.
Fuel—Plentiful.
Fodder—Plentiful.
Supplies—Negligible.

ROUTE D-20.

MU-SE—MAN-SE.

Length :—35m.

3 Stages.

Epitome—

A fair mule track throughout. Undulates through grass and scrub in Stage 1. Mountainous and jungle covered in Stages 2 and 3. Portions of the route in Stage 3 at present impassable to Pack Tpt., but could easily be made so with little labour. Tps. unable to operate to any extent off the road except in Stage 1.

C.Gs.—For—(a) 1 Bn. in Stage 1.

(b) 3 Coys. in Stage 2.

(c) 2 Bdes. in Stage 3.

Water—Plentiful throughout.

Fuel—Plentiful throughout.

Fodder—Obtainable throughout.

Supplies—Negligible, except large quantities of paddy obtainable at MU-SE and at Stage 2.

NOTE.—At MU-SE this route joins Routes D-2A and D-17.

At MAN-SE this route joins Route D-9.

Stage 1.

MU-SE—HSI-BOK.

- 14m. Good mule track through undulating scrub country.
 1m. A branch road L. to KING YAWNG POST.
 1m. 2f. Passes NAMHKUM (Shan—17h), thence descends to
 cross NAM HKAM (no obstacle).
 4m. 4f. Passes GAWSANG (KONGHSA on map) (Kachin,
 Palaung).
 5m. 4f. Cross road L. to KING YAWNG POST.
 R. to MONG YU.
 8m. Passes LONGHKANG (Palaung—18h).
 10m. 2f. Passes NAMTAO (Kachin—33h), thence ascends to
 14m. HSI-BOK.
C.G.—For 1 Bn. in and around village.
Water—Plentiful from stream W. of village.
Fuel—Plentiful.
Fodder—Some grazing.
Supplies—Negligible—50 baskets of paddy.

Stage 2.

HSI-BOK—NAMHKEK.

- 8m. Fair mule track through wooded, hilly country. Runs
 level for 2m. then climbs to saddle at
 2m. 3f. Here a branch road L. to MONG KO.
 2m. 6f. Passes HPAWEN (Kachin—14h) and descends to
 5m. Passes MAN MAU (MONG PAW) (Palaung—Chinese—
 28h).
 5m. 4f. Crosses NAM PAW (12ft. × 2ft. fordable in open season).
 Thence gentle ascent to

ROUTE D-20—*contd.*

22m.

Reaches **NAMHKEK** (Kachin—253h).*C.G.*—For 3 Coys. near Kachin Chief's house.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Paddy straw and grass plentiful.*Supplies*—1,000 baskets of paddy and small quantities of fowls, eggs and vegetables, etc. obtainable. 5th day bazaar.

Stage 3.

NAMHKEK—MAN-SE (MONGYA).

13m.

Fair mule track, through wooded mountainous country. Impassable for mules in some places but could easily be made fit.

3f.

Passes **HKA KHA** (Palaung—16h).

3½f.

Branch road L. to **MONG KO**. Road ascends to

1m. 6f.

Thence ascends and descends to

5m. 6f.

Passes **APAUMKATAWNG** (Chinese—8h).

8m.

Passes **HPUNAM** (**HPAKKAWN** on map) (Kachin—14h) thence descends to **NAM MWE** and follows along it to **MAN-SE**. This latter part of the road is rather rough-going.

35m.

Reaches **MAN-SE (MONGYA)**.*C.G.*—For 2 Bdes.*Water*—Plentiful from **NAM MWE**.*Fuel*—Plentiful.*Fodder*—Grazing in paddy fields.*Supplies*—500 baskets of paddy. 5th day bazaar.

ROUTE D-21.

PANGLAW (or KAWNGHKA)—MA-LI-PA.

Length :—72m. 4f.

7 Stages.

Epitome—

A good mule track throughout—except stages 4 and 5 where gradients are steep and difficult. Passes through fairly open country except at the end of Stage 4, and in Stage 6. Difficult for Tps. to operate off road to any extent in Stages 4, 5, 6 and 7. Crosses several streams *en route*, and **SALWEEN** in Stage 5.

C.Gs.—Average about 2 Bns. except Stages 4 and 5.*Water*—Plentiful in all stages except Stage 4.*Fuel*—Plentiful except Stages 4 and 6.*Fodder*—Plentiful except Stages 2, 4 and 5.*Supplies*—Negligible—except Stage 7 where plentiful with notice.NOTE.—At **PANGLAW** this route joins Route D-1.At **MA-LI-PA** this route joins Routes D-17 and D-25.

ROUTE D-21—*contd.*

Stage 1.

PANGLAW—MAN HAI.

- 9m. Good mule track through undulating hilly, scrub covered country.
- 7m. 4f. Passes HSAI (Shan, Palaung—7h).
- 8m. 4f. Crosses NAM TI by bamboo bridge (35ft. × 2ft. × 9ft. high).
Passes NALONG (Shan—22h) on opposite bank (fordable in dry weather).
- 9m. Reaches **MAN HAI** (Shan—29h).
C.G.—(a) Unlimited in paddy-fields.
(b) 2 Bns. round village with clearing.
Water—Plentiful.
Fuel—Plentiful—1½m. distant.
Fodder—Grass obtainable.
Supplies—Negligible—5th day bazaar.

Stage 2.

MAN HAI—MAN TAKNAI.

- 7m. Road and country similar to previous stage.
- 1m. Crosses NALAWNG *chaung* (60ft. wide × 1ft. deep; fordable in rains).
- 1m. 6f. Passes NA-UNG (Kachin—2h).
- 4m. Passes HSENGHAWM (Kachin—15h).
- 5m. 4f. Crosses NAM TI by bamboo bridge (45ft. × 6ft. × 6ft. high).
- 16m. Reaches **MAN TAKNAI** (Kachin, Chinese, Palaung—28h).
C.G.—For 3 Bns. in and around village.
Water—Plentiful.
Fuel—Plentiful.
Fodder—Jungle grazing.
Supplies—Nil.

Stage 3.

MAN TAKNAI—MONG SI.

- 20m. Good mule track—through similar country.
- 36m. Reaches **MONG SI** (Shan, Kachin, Chinese—55h).
C.G.—For 1 Div. S. of village.
Water—Plentiful from *chaung* and wells.
Fuel—Plentiful.
Fodder—Plentiful.
Supplies—Fair quantity of paddy—some fowls, eggs and vegetables obtainable—5th day bazaar.

Stage 4.

MONG SI—MAN TAHU.

- 12m. A fair mule track through mountainous country, fairly open at first and later thick wooded country. Gradients are stiff and difficult. A very tiring march and could be divided if necessary into two stages by camping at MAN NAWNGHIU.

ROUTE D-21—contd.

Passes LUNGMI (La—30h) here :—

C.G.—For 100 men in *kyaung* and under big trees.

Water—Plentiful—over $\frac{1}{2}$ m. distant N. downhill.

Fuel—Plentiful—from jungle.

Fodder—Scarce.

Supplies—Small quantities—rice, eggs, chicken.

Thence continues and reaches junction of 3 roads—

(a) S. to TUN MONG; (b) W.N. W. to MAN TAK (straight on); (c) the route to follow—Road turns Sharp R. here and continues by very steep descent (difficult) and crosses NAM LANG (fordable). Crosses steep ridge and again crosses NAM LANG (12ft. \times 6ins. Dec.). Passes NAWNGHIU (Palaung—26h).

C.G.—For 50 men near *kyaung* and 50 men on spur S. of village.

Water—Plentiful from well N. E.

Fuel—Plentiful—from jungle.

Fodder—Limited.

Supplies—Negligible—small quantities of paddy, rice, fowls and pigs.

Thence passes MAN KAWNG HUNG (Kachin) and here path S. to MAN TAK. Thence steep gradients. Passes MAN WENG TANG (Kachin). Passes MAN HIN (Kachin). Passes MAN NAM TAWNG (Kachin) on L. Country now becomes thickly wooded. Passes MAN NAWNGMO (Palaung) on L. and below. Passes MAN MAHSAN (Chinese) on L.

48m.

Reaches **MAN TAHU** (Palaung—25h).

C.G.—(a) For 16 men in *kyaung*.

(b) For 200 men on spur below village.

Water—

Fuel—

Fodder—

} Sufficient for above force.

Supplies—Negligible. Rice, fowls, paddy in small quantities.

Stage 5.

MA TAHU—NANHAI CAMP.

3m.

A short march but it entails a stiff descent to, and then the crossing of the SALWEEN river. The crossing takes a very long time—i.e. 20 men and 20 mules only, take 2 hrs. 20 mins. to cross from arrival at one bank to departure from the other.

4f.

An easy descent through open grass land to

1m. 6f.

Thence steep descent through thick grass to

Thence through thick jungle, level along SALWEEN for $\frac{1}{4}$ mile.

2m. 2f.

Reaches TAPA Ferry. SALWEEN here is 300ft. wide—40ft. deep, 4 m.p.h. current—rocky banks. in December on each bank a level strip of sand and loose rock about 90ft. long by 30ft. wide which with a little clearing can be made into moderate landing places. On r.b. is a

ROUTE D-21—contd.

sandbank 2f. below ferry suitable for C.G. (100 yds. × 50 yds.). The ferry is worked by 1 bamboo raft and 3 men—(carrying capacity—3 mule loads or 6 men with equipment)—animals must swim. The ferry men live on a hill on r.b. After crossing track runs through thick jungle on left bank for 2f. where NANHAI joins SALWEEN.

Here

51m.

Reaches **NANHAI CAMP** (No village).

C.G.—For 300 men on paddy land (dry weather only).

Water—Plentiful (Hot Sulphur Springs).

Fuel—Plentiful.

Fodder—Limited—scarce.

Supplies—Nil.

Stage 6.

NANHAI CAMP—WAN-CHA-TZU-SHU.

10m. 4f.

Mainly a good mule track passing through hilly country with easy gradients.

Crosses NANHAI. Thence a faint jungle track ascending through thick country to

2m. 4f.

Passes WAN-HUANG-TIE (Chinese), here

C.G.—Very small.

Water—Limited.

Fuel—Plentiful.

About 3m. 5f.

Thence turns due S. and descends to

Crosses NAM YAN.

Thence ascends for 1 mile. Thence level alongside ridge to

About 5m. 1f.

Passes WAN-TAWAN-TZU (Chinese) L. above track.

About 6m. 1f.

Passes WAN-TAWAN-TZU (Chinese) R. of track.

Thence descends to

About 7m.

Crosses NAM PAKYET (YANGHSAO-HAW) (fordable).

8m. 4f.

Ascends and passes over small col.

For last 400 yds. passes down small ravine due S. to

61m. 4f.

Reaches **WAN-CHA-TZU-SHU**, head village of KA KANG (Chinese—50h—part of which is inside a stockade and fence of prickly growth through which road passes. High up on hill with steep cliffs on each side and commanded on all sides except S. where valley runs).

C.G.—For 600 men at foot of hill on N.W. side in hollow (in dry season only). In rains necessary to move into village—cramped.

Water—(a) Good from stream—diverted to flow near C.G.

(b) Facilities for drawing bad.

(c) Animals can water from stream $\frac{1}{2}$ m. N.E.

Fuel—Not plentiful.

ROUTE D-21—concl'd.

Fodder—Plentiful, poor grazing. Bamboo leaves obtainable.

Supplies—Limited. Could be obtained with previous notice; 20 goats obtainable. Fowls scarce.

Stage 7.

WAN-CHA-TZU-SHU—MA-LI-PA.

11m.

A good mule track with long easy gradients.

From WAN-CHA-TZU-SHU there are 2 routes—(a) left-handed—ascends running N.E. and then S. skirting the intervening range of hills.

2m. 4f.

Pass L. cultivated land—where

C.G.—for 200 men.

Water—Good.

Also a road runs N. to WAN TA-SHUI-T'ANG.

3m. (5th day bazaar).

(b) right-handed—running E.—climbs range of hills rather steep—about 1m. shorter than (a) but not recommended for mules and re-joins (a) just before crossing CH'A-HO stream.

[Taking track (a).]

Track continues crossing CH'A-HO (18ft. × 2ft. banks 5ft. high), by narrow stone bridge—thence ascends for 4ft. to top of NAM-CHAUHPA range—thence descends through dense country to TAWNIO (TU-NIU—sheet 93-1) steep at first thence gradual. After 4f. passes small stream on side of road with water trough—(when full holds scant supply for 100 men—perennial).

About 6m.

Passes WAN-TA-CHIEH-TIO (Chinese).

8m. 4f.

Crosses small stream by strong stone bridge, thence parts of road are bad through marshy land to

9m.

9m. 4f.

Passes NASAI.

10m.

Track (a) bears R. to MA-LI-PA.

Track (b) bears L. to TAWNIO C.G.

TAWNIO—3 Shan villages close to MA-LI-PA.

72m. 4f.

Reaches **MA-LI-PA** (Chinese—on KUNLONG trade route—an important centre, very dirty).

C.G.—For 1 Bde. on N.E. side just above TAWNIO stream. Near TA-SHUI-T'ANG—MA-LI-PA road, in dry weather.

Water—Plentiful (a) from spring near TAWNIO.

(b) from TAWNIO stream.

Fuel—Unlimited timber in vicinity.

Fodder—Good grazing.

Supplies—Small quantities—paddy, rice, goats and fowls obtainable—also other supplies, vegetables, etc., from MA-LI-PA bazaar.

Supplies of paddy, etc., for any large force obtainable with previous notice.

ROUTE D-22.

MAN TAKNAI—MAN KUNG MONG.

Length :—59m.

5 Stages.

Epitome—

A fair mule track, passing through mountainous country. With small tree and scrub jungle to Stage 5, thence wooded. Meets route D-2 (HSENWI—KUN-LONG) in Stage 4 and follows it to NATI.

C.Gs.—Average 2 Bns. throughout.

Water—Plentiful throughout.

Fuel—Plentiful throughout.

Fodder—Plentiful throughout.

Supplies—*Nil.* Small quantities of paddy and vegetables obtainable in MONG NGE and MAN KUNG MONG.

NOTE.—AT MAN TAKNAI this route joins Route D-21.

AT MAN KUNG MONG this route joins Route D-3.

Stage 1.

MAN TAKNAI—MONG NGE.

12m.

MAN TAKNAI. (28h.)

0m.

C.G.—For 3 Bns. in and around village.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Plentiful.

Supplies—Negligible—5th day bazaar.

3m.

Passes MAN PAHTO (19h).

4m. 4f.

Passes MAN YEN (9h).

9m. 4f.

Crosses MONG NGE *chaung* by bamboo bridge (30ft. × 6ft. × 7ft. high).

10m.

Passes MONG NGE-AWN (8h).

11m. 4f.

Crosses MONG NGE *chaung* by bamboo bridge (30ft. × 9ft. × 5ft. high).

12m.

The stream is fordable in the rains.

Reaches MONG NGE (107h). (See Route D-1, Stage 15.)

C.G.—For 1 Bde. in and around village.

Water—Plentiful.

Fuel—Obtainable.

Fodder—Plentiful.

Supplies—40 baskets of paddy and a few vegetables obtainable—5th day bazaar.

Stage 2.

MONG NGE—MAN PANGNOI.

8m.

Passes SHAMSIN (MAN-KIN-YU on map)—9h.

5m. 4f.

Reaches MAN PANGNOI (12h).

20m.

C.G.—For 2 Bns. in and around village.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Obtainable on hills.

Supplies—*Nil.*

ROUTE D-22—*contd.*

Stage 3.

MAN PANGNOI—UMLI.

12m.

3m. 6f.

4m. 4f.

5m. 6f.

9m.

32m.

Passes HPAHKA (10h).

Crosses NAM KAN (fordable in rains).

Passes SENG (NAWNGHKAM on map)—12h.

Passes MAN HINGLENG.

Reaches **UMLI** (17h).*C.G.*—For 2 Bns. in and around village.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Plentiful.*Supplies*—*Nil*.

Stage 4.

UMLI—NATI.

12m.

Passes KONGLOM (9h).

Crosses NAM TU by bamboo bridge (66ft. × 6ft. × 6ft. high).

6m. 4f.

Crosses NAM TU again (fordable in rains).

7m. 4f.

Passes PANGTI (6h).

Crosses NAM YI (108ft. wide × 1ft. deep, fordable in dry weather).

44m.

NATI (Shan—36h), 200 yds. beyond and 40 ft. above right bank of river on small plateau; 300 yds. from ford.*C.G.*—(a) For 1 Coy. on left bank, could be extended with clearing.

(b) For 1 Coy. on right bank—S. of village and above it with clearing.

(c) Unlimited in fields N. of village in dry weather.

Water—Plentiful.*Fuel*—Plentiful.*Fodder*—Plentiful.*Supplies*—Negligible.

Stage 5.

NATI—MAN KUNG MONG.

15m.

Crosses NAM TI (fordable in rains).

3m. 4f.

Passes PANGWA (9h).

12m.

Passes MAN NAMLENG (11h).

13m. 4f.

Crosses KUNG MONG *chaung* by bamboo bridge (36ft. × 6ft. × 5ft. high).

MAN KUNG MONG.

59m.

C.G.—For 1 Bn. on knoll just N. of village.*Water*—Plentiful from wells and streams.*Fuel*—Plentiful.*Fodder*—Fair supply—grass and grazing.*Supplies*—Plentiful—5th day bazaar.

ROUTE D-23.

MONG SI—KUNLONG.

Length :—39m. 6f.

4 Stages.

Epitome—

A good mule track throughout, except in Stage 3 where impassable to Pack Tpt. Mainly through wooded hilly country. Crosses NAM NIM and SALWEEN in Stage 4. Difficult for Tps. to operate off the road to any extent.

C.Gs.—For 1 Bn. throughout except Stage 3, where about 1/2 Bn.

Water—Plentiful throughout.

Fuel—Plentiful throughout.

Fodder—Plentiful, Stages 1 and 4.

Obtainable but limited—2 and 3.

Supplies—Negligible except Stage 4, where plentiful.

NOTE.—At MONG SI this route joins Routes D-21 and D-19.

At KUNLONG this route joins Routes D-2 and D-3.

Stage 1.

MONG SI—MAN HSAI HKAO.

11m. 4f.

Good mule track.

1f.

Crosses NAM SI (45ft. × 2ft.—unfordable in heavy rains).

2f.

Road R. to MONG NGE.

Thence passing several small villages through cultivated land to

1m.

Passes MAN HAW and KUYAW, each side of road.

1m. 4f.

Passes LUKHKA (Shan—7h).

2m.

Passes MAN HO HKANG (Shan—6h).

3m. 4f.

Passes MAN MANKKIU (Kachin—28h).

5m. 4f.

Steep ascent to

7m.

Passes MAN MAU (Kachin—12h).

Thence through wooded country to

7m. 6f.

Passes MAN SAWN MEN (Kachin, Palaung—19h).

11m. 4f.

MAN HSAI HKAO (Palaung—19h).

C.G.—For 1 Bn. in and around village.

Water—Plentiful from *chaung* and wells.

Fuel—Plentiful.

Fodder—Plentiful.

Supplies—Negligible—30 baskets of paddy.

Stage 2.

MAN HSAI HKAO—WAN CHU ANG.

11m.

Good mule track through wooded, hilly country. Descends gently through dense jungle to

3m.

Crosses NAM PAW (12ft. × 2½ft.—unfordable in heavy rains).

4m. 4f.

Thence undulates to

Passes MONG PAW (Shan, Palaung—34h).

C.G.—For 2 Bns. in paddy-fields (dry weather).

Water—Plentiful.

Fuel—Plentiful.

Fodder—Plentiful.

ROUTE D-23—contd.

Supplies—Negligible. Some paddy, fowls, etc.—5th day bazaar.

Just after leaving MONG PAW crosses NAM HKA (33ft. \times 1½ft.—unfordable after heavy rains).

Thence by steep gradients to

22m. 4f.

WAN CHU ANG (Chinese—Azi—Palaung 33h).

C.G.—For 1 Bn. in and around village.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Grass and grazing.

Supplies—Negligible. 80 baskets paddy, some fowls, eggs, etc.—5th day bazaar.

Stage 3.

WAN CHU ANG—DUMJE.

12m. 2f.

A narrow path—impassable to Pack tpt. through dense mountainous country. Steep ascent for 2f., thence descends to

2m.

Passes WASAI (Azi), thence continues down to

4m. 4f.

Crosses NAM HKA (fordable in rains) here track R. to MAN NAKHKAN.

5m.

Recrosses NAM HKE thence over ridge to

6m. 4f.

Track R. to URAW (Maru—13h).

Thence very steep and rocky.

8m. 2f.

Passes MAN HSIAOMATI (Chinese—14h).

Thence by steep gradients to

34m. 6f.

DUMJE (MAN-TONGKEP on map—Shan—Maru—13h).

C.G.—For 3 Coys. in and around village.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Grass, and grazing.

Supplies—Nil.

Stage 4.

DUMJE—KUNLONG.

5m.

A good mule track. Level throughout through wooded country. Proceeds S. to cross NAM NIM (249ft. \times 12ft. unfordable) by ferry.

1m. 4f.

Road strikes Route D-3, thence follows r.b. of NAM KHONG (SALWEEN) to KUNLONG S.

Thence crosses SALWEEN by ferry (carrying 25 mules).

39m. 6f.

Reaches **KUNGLONG N.**

C.G.—(a) For 2 Coys. W. of village on large open space on S. bank.

(b) For 2 Coys. on N. bank, N. of village, on river bank.

Water—Available—Best from small stream by C.G.(b).

Fuel—Plentiful.

Fodder—Fair supply.

Supplies—Plentiful—5th day bazaar.

ROUTE D-24.

SUNGHAI—NAM PAO RIVER.

Length :—27m. 4f.

4 Stages.

Epitome—

An indifferent mule track. Suitable for a small force only. Some excessive gradients. In some places practically impassable in the rains.

C.G.—Very small.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Poor and limited.

Supplies—Limited. A few cattle, pigs and goats. Small quantities of paddy, rice, etc., obtainable.

NOTE.—At SUNGHAI this route joins Route D-3.

Stage 1.

SUNGHAI—HSIAO-MA-TI.

5m.

A fair mule track. Steep gradients in places. Very difficult in rains, through dense country.

About 1f.

Crosses NAM NIM (135ft. x 3ft. [Dec.]—4 m.p.h. current—firm, level bed, approaches—r.b. steep—lb. easy) by ford close to its junction with SALWEEN and follows bank of SALWEEN.

About 3f.

Passes TUNGHKE (TONG-KEP) Ferry over SALWEEN.

About 1m.

Track leaves the SALWEEN.

1m. 2f.

Passes a few houses.

1m. 4f.

Passes TONG-KEP (Kachin—12h).

3m.

Thence track climbs continually.

Passes NAWNG-LUM (Kachin) here—

C.G.—For 150 men in paddy-fields. Dry weather only.

Water—Plentiful.

5m.

HSIAO-MA-TI (Chinese 10h—dirty).

C.G.—(a) Good under trees near village for bivouac.

(b) Room for 8 tents only near village.

Water—Good—from stream W. of village.

Fuel—Plentiful.

Fodder—Negligible.

Supplies—Scarce. Very small quantities rice, paddy, fowls, pigs, etc.

Stage 2.

HSIAO-MA-TI—MAN PING PANG.

7m.

Fair mule track, a few steep gradients. Through dense jungle with occasional light patches.

1m. 4f.

Reaches KAWNG-ET (Kachin, 10h). From here steep descent to

2m.

A bad re-entrant (sometimes washed away by down-coming stream. Timber available for bridging).

Thence gradual descent with short steep gradients at stream crossings, of which several are encountered.

3m. 2f.

C.G.—For 50 men under trees.

Water—From stream.

Crosses large stream, thence road ascends steeply a spur to

ROUTE D-24—contd.

Passes NAMHKAN (Kachin—7h). 4,000ft. here.

C.G.—For 50 men.

Water—Sufficient.

Fuel—Plentiful.

Fodder—Limited.

Supplies—Nil.

Thence descends with some steep gradients and crosses a stream thence climbs steeply to

5m. 6f.

Passes LOI-PWI (Kachin); thence easy descent through jungle to

7m.

Passes offshoot of MAN PING PANG.

MAN PING PANG (Kachin—with 3 or 4 Chinese).

12m.

C.G.—Very small at N. exit of village—80 yds. × 50

yds.

Water—From stream S. E. of village—drawing facilities bad.

Fuel—Plentiful.

Fodder—(a) None in vicinity.

(b) Good grazing 1m. distant on KO-KAI-HTANG road.

Supplies—Negligible. Small quantities of paddy, rice, fowls, etc., obtainable.

Stage 3.

MAN PING PANG—KO-KAI-HTANG.

7m.

A good mule track. No steep gradients. Crosses small stream on leaving C.G.

2f.

Passes offshoot of PING-PANG (3h).

1m.

Passes HSIAO-TIEN (Chinese) situated in open marshy country; thence gradual ascent crossing a small stream.

1m. 2f.

Passes high cliff on R.

1m. 6f.

Gradual descent commences.

2m. 4f.

Path R to NAMPA-MUNG (La).

3m.

Passes NAWNG-HKIU (Chinese) $\frac{1}{2}$ m. distant. Here also a junction of several well worn paths in all directions.

3m. 2f.

Path L. to MONG PAW.

4m. 2f.

Joins NAM SAWN—KO-KAI-HTANG road. NAM SAWN (WAN CHUANG) (Palaung—La—Chinese) 1m. distant.

5m.

Thence track rises through rocky, wooded knolls with marshy ground and a stream on R. Track becomes level through light jungle.

6m.

Path L. to LAO-KAO (Chinese).

7m.

KO-KAI-HTANG (Chinese—15h—dirty—L. $\frac{1}{4}$ m. from track).

19m.

C.G.—For 400 men on knolls E. and S. of village.

Water—Limited—poor—from well between the two portions of the village.

Fuel—Plentiful.

Fodder—Plentiful—fair grazing.

Supplies—Scarce. Small quantities of paddy, rice, fowls, etc.

ROUTE D-24—concl'd.

Stage 4.

KO-KAI-HTANG—NAM PAO RIVER.

- 8m. 4f. Good mule track. Easy going except descent to NAM PAO, which is overgrown, slippery and steep. Practically level with one steep descent to
- About 2m. 4f. Passes MAN HOI (Chinese—15h).
C.G.—For 60 men.
Water—From stream.
Fuel—Plentiful.
Fodder—Limited grazing, but good.
Supplies—Limited. Small quantities of paddy, rice, fowls, etc.

Thence steep descent and ascent crossing small stream. Passes LAO LOI (8h—Chinese); here camping ground facilities similar to MAN HOI, and after $\frac{1}{2}$ m. passes another LAO-LOI (Palaung—6h) camping facilities similar to MAN HOI.

- 4m. 4f. Gradual descent through thin jungle commences, thence steep descent through thick jungle to NAM PAO River and continues along this to ford.

- 8m. 4f. **NAM PAO** (30ft. \times 3ft. Dec.)—stony bed—swift current—several weirs above and below approaches, r.b. steep entailing 15ft. ascent, l b. easy. Both banks approached through high grass jungle. Timber in vicinity for bridging.

- 27m. 4f. *C.G.*—On l b. 120 yds. \times 100 yds. on paddy land.
Water—Plentiful.
Fuel—Abundant.
Fodder—Practically no grazing.
Supplies—Nil. (Nearest village—LUNGMI), 2m. N.

NOTE.—There is a direct route to MA-LI-PA which branches off from NAM SAWN (WAN CHUANG) in Stage 3 which after 9 miles crosses SALWEEN by small ferry near MA-CHANG on W. side and goes about $\frac{1}{2}$ m. to WAN-CHA-TZU-SHU, thence to MA-LI-PA.

This is reported to be a bad road.

ROUTE D-25.

KUNLONG FERRY—MA-LI-PA.

Length :—16m.

Epitome—

Details of route not yet complete.

1 Stage.

Stage 1.

KUNLONG FERRY—MA-LI-PA.

16m.

Road bears N. E. passing through HAISHUSHWI (Chinese—50h—5th day bazaar) and ascends round a shoulder of hills, through rocky defile and emerges into a long flat valley, the road running through the centre. Passes TISHWERPAW (Chinese—10h—W. of road) at entrance

ROUTE D-25—concl'd.

of valley. After 1m. passes PAOPACHAI (Chinese—10h) E. of road—opposite village a tank of muddy water (50 yds. × 10 yds.). Not fit to drink. (There is no other water in this valley).

13m.

Turns and passes through rocky gap with perpendicular stone-faced walls. Thence through open grassy country undulating to

16m.

MA-LI-PA (Chinese—on KUNLONG trade route—an important centre, very dirty.)

C.G.—For 1 Bde. on N. E. side, just above TAWNIO stream. Near TA-SHUI-T'ANG—MA-LI-PA road in dry weather.

Water—Plentiful—(a) from spring near TAWNIO.

(b) from TAWNG stream.

Fuel—Unlimited timber in vicinity.

Fodder—Good grazing.

Supplies—Small quantities—paddy, rice, goats and fowls obtainable—also other supplies, vegetables etc., from MA-LI-PA bazaar.

Supplies of paddy etc., for any large force, obtainable with previous notice.

At MA-LI-PA, this route joins D-17 and D-21.

ROUTE D-26.

TANG-YAN—MONG KET.

Length :—60m. 5f.

4 Stages.

Epitome—

A dry weather motor road in Stages 1 and 2, thence a mule track to MONG KET. Route in Stages 1 and 2 is unfit for constant M.T. traffic in the rains, though passable to carts in that season. Passes through open country in Stages 1 and 4 and through mountainous country in Stages 2 and 3. There are no steep gradients or sharp corners in Stage 3. Tps. could operate off the road most of the way.

C.G.—Unlimited throughout.

Water—Plentiful throughout.

Fuel—Limited.

Fodder—Unlimited grazing Stages 1 and 2 though grass liable to become dried up in Stage 1 in dry season.

Supplies—Nil in Stages 1 and 2. Limited supply, Stages 3 and 4.

NOTE.—At TANG-YAN this route joins Routes D-4, 33, 34, 35 and 93.

At MONG KET this route joins Route D-3.

ROUTE D-26—contd.

Stage 1.

TANG-YAN—NA NIU.

- 13m. 4f. Route passes through an undulating grassy plain.
 4f. Passes MAN LOI HSAN (Shan—45h).
 7f. Crosses small stream, and 200 yds. further on passes
 a small lake (dry in hot weather).
 1m. 3f. Cart track L. to MAN LOI HAUNG (Shan—30h). Cart
 track R. to HO-NAM (Shan—4h).
 1m. 6f. Again a cart track L. to MAN LOI HAUNG.
 2m. 6f. Crosses stream (12ft. x 2ft. in rains).
 3m. Cart track (at M.S. 24) R. to LONGLENG (15h—
 Shan).
 Crosses stream (6 ft. x 1 ft.) 200 yds. further on.
 4m. 2f. Passes KUNGKUT (Shan—20h).
 5m. 4f. Passes large bamboo grove.
 6m. Cart track at (M.S. 21) R. to NAM PA MAN (1m. dis-
 tant).
 6m. 7f. Cart track L. to KUN NIM (1m. distant).
 7m. 2f. Cart track L. to PANG HPA and MANKAT.
 8m. Passes NAWNGHSAU (Shan—20h) at (19 M.S.).
 10m. Passes, at 17 M.S., MONGKENG (Shan—Chinese—
 40h).
 C.G.—Ample and r. h.
 Water—Ample from lake.
 10m. 5f. Passes HUNG KAN (Shan—5h).
 10m. 6f. Track R. to NAM YAWN (4m. distant).
 12m. 1f. Passes NAM PANGSENG (Shan—5h).
 13m. 4f. **NA NIU** (Shan: Shan-La-Wa—30h).
 C.G.—Ample on high ground near *kyaung* in paddy fields.
 Water—Ample from stream.
 Fuel—Scarce—obtainable with previous notice.
 Fodder—Jungle grazing.
 Supplies—Nil.

NOTE.—There is a large expanse of flat ground between NA NIU and 14 M.S. which could be used as a landing ground for aircraft with very little work.

Stage 2.

NA NIU—NAWNGLENG.

- 16m. 1f. Road rises steadily with no steep gradients for 5 miles
 There are numerous short-cuts which could be used by march-
 ing Tps. which would shorten the distance considerably.
 1m. 1f. Track L. to NAHENG (Shan-La-Wa) 1m. distant.
 After 1f. road is badly cut up in places for some distance
 by a stream.
 6m. 2f. Track on R. to HSOM KWE (Palaung—Shan-La-Wa—
 4h).
 6m. 4f. Just after 8 M.S. the road is liable to be blocked by
 landslides.
 7m. 2f. Track R. to HPA PANG.
 8m. 4f. (6 M.S.) Chinese farm—100 goats available.
 8m. 6f. Track R. to PANGWO (Shan-La-Wa—2h).
 Also track L. to PANGOI (Palaung—7h).

ROUTE D-26—contd.

9m. 4f.	(5 M.S.) Track R. to NAM MUSE.
9m. 6f.	Track L. to MAN HOI (Shan-La-Wa—6h).
11m. 2f.	Track R. to MANKANG (Shan-La-Wa—5h).
11m. 4f.	(3 M.S.) Track R. to NAM MUSE (Shan-La-Wa—15h).
12m.	Track R. to MAN ME HAI (Shan-La-Wa—7h).
	Track L. to MAN HOI (Shan-La-Wa—4h). $\frac{1}{2}$ m. distant and R. to MAN ME HAI.
12m. 2f.	Road bifurcates— new road R. } rejoins after 3f. old road L. }
13m. 4f.	Passes PANGMUN SANG (Shan-La-Wa—12h).
13m. 6f.	Track L. to NAM MAK LAWT (Shan-La-Wa—14h).
14m. 2f.	Track R. to PANG MUN (Chinese—5h).
14m. 4f.	(22 M.S.) Track L. across valley to NAM MAK LAWT.
14m. 5f.	Cart track R. to PANG MUN.
14m. 6f.	Track R. to KONGSIM (Shan-La-Wa—2h).
14m. 7f.	(a) Track R. to KONGSIM. (b) Track L. to NAM MAK LAWT.
15m. 4f.	(21 M.S.) Track R. to PANG MUN.
16m.	Perennial stream—water supply for C.G.
29m. 5f.	NAWNGLENG (LOI MAW). C.G.—Very large area. Water—(a) From stream at 16m. (b) 300 yds. R. of road at 20m. 1f. on NAMHU—PANGSE —NAWNGLENG route. (c) L. of road 1m. 4f. from C.G. from spring (bamboo spout). Fuel—Available. Fodder—Jungle grazing. Supplies—Potatoes in season plentiful with notice. Paddy scarce. 100 mules available with 1 week's notice. 500 mules available with 1 month's notice. (Mules are available but delay caused by getting saddlery for them.) At NAWNGLENG, Route D-28 branches L. and R.

Stage 3.

NAWNGLENG—MAN MAK.

21m.	Mule track; very difficult owing to steep gradients, and very long.
6m.	Passes KANGMONG (water scarce).
7m.	Crosses NAM HSAM—here C.G., water and fodder plentiful. No supplies. No village.
	Passes R.—WANTUK (Chinese).
	Passes L.—PANGTETUI—(Palaung).
	Passes L.—LOIWING.
	Passes MAN MO HUK (Shan).
	Passes MAN PUCHET (Kachin).
	Passes KAWNGKE (Kachin).
	Descends to NAM HSAWM River.
	Climbs steeply to watershed beyond Kachin villages.
	Descends to

ROUTE D-26—concl'd.

50m. 5f.

Reaches **MAN MAK** (Group of villages; one Chinese, remainder Shan).

C.G.—Large; By old Chinese earthwork.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Grass scarce.

Supplies—Negligible—Small bazaar.

Stage 4.

MAN MAK—MONG KET.10m.

Mule track through open undulating country.

Tps. could operate off road.

Passes MANGWI, MANLI, and NALU, besides those villages shown on the map.

60m. 5f.

Reaches **MONG KET** (Route here joins Route D-3.)

C.G.—W. of village on banks of NAM KET.

Water—Plentiful from stream.

Fuel—Limited.

Fodder—Plentiful.

Supplies—Negligible—5th day bazaar.

ROUTE D-27.

MONG YAU—NAM TI

Length :—29m.

3 Stages.

Epitome—

A good level cart road to PANGTU LIN, 3m. 4f. Thence mule track to NAM TI.

Generally the track is of rocky uneven surface: bad for animals. Very steep and difficult in places.

Stage 1—Through mountainous country.

Stage 2—Much easier, crossing only two easy ridges—mainly through fairly open country.

Stage 3—Through dense mountainous country: with very difficult and steep inclines.

Streams except in Stage 1 unbridged throughout.

Fordable in dry weather.

C.Gs.—Unlimited throughout with clearing: in Stage 3 much clearing is needed.

Water—Unlimited.

Fuel—Plentiful (1—2 miles away in Stage 1).

Fodder—Plentiful grazing (except in Stage 3).

Supplies—Nil.

NOTE.—At MONG YAU this route joins Route D-3.
At NAM TI this route joins Route D-28.

ROUTE D-27—*contd.*

Stage 1.

MONG YAU—NAWNGSHAMPU.

- 12m. 4f. Good level cart road unbridged except just outside MONG YAU.
- 3m. 4f. Reaches PANGTU LIN, thence becomes mule track and starts to ascend.
Passes MAN MOW.
- 5m. Ascends very steeply.
- 5m. 4f. Descends very steeply.
- 6m. 4f. Crosses small divide. Thence follows line of stream.
Surface rocky and very bad.
- 7m. 4f. Turns sharp R. over stream and climbs LOI KANG hill (very steep and difficult; very bad surface).
- 10m. 4f. Passes through cutting at top (5,000 ft.).
Thence descends by easy gradients.
- 10m. 6f. Track branches L. towards NAWNGSHAMPU.
- 12m. 4f. Reaches **NAWNGSHAMPU** or **MANLOINGUN**.
C.G.—Unlimited.
Water—Unlimited.
Fuel—Unlimited (1—2m. from camp in foot-hills.)
Fodder—Grazing unlimited.
Supplies—Nil.

Stage 2.

NAWNGSHAMPU—HANG PANG AND PENGHKAW.

- 7m. 4f. Track as in Stage 1. Passes through valleys, open, and cultivated. Crosses two ridges.
- 1m. Ascends and passes through gap in LOI-NGUN hills.
- 2m. Passes LONGTWI—here crosses stream—fordable dry weather.
- 4m. 4f. Crosses NAM MAK—fordable in dry weather.
Passes MAI-MAKHSIO, thence ascends and crosses ridge (very steep inclines at top—surface bad).
- 6m. Crosses stream, in valley, boggy ground.
- 7m. Road L. to MANMAO.
- 20m. Reaches **HANG PANG**.
C.G.—In vicinity of **PENGHKAW**.
C.G.—Unlimited.
Water—Unlimited.
Fuel—Unlimited.
Fodder—Grazing unlimited.
Supplies—Nil.

Stage 3.

HANG PANG—NAM TI.

- 9m. Track as in Stages 1 and 2. Passes through dense mountainous country—in places very steep and difficult.
- 1m. Descends to stream (very steep) crosses and climbs very steeply to top of hill—(very dangerous, slippery track).
- 3m. Passes PANG PEN.

ROUTE D-27—concl'd.

3m. 2f. Branches L and descends very steep slope to cross NAM PANGNAWNG.

4m. 4f. Climbs through PANGHSA MONG (steep but good condition).

Thence descends through dense jungle, track very narrow, to

29m.

Camp site at junction **NAM TI—NAM MA.**

C.G.—Only 100 yards by 100 yards (more could be cleared).

Water—Limited (except from NAM TI where unlimited distant 1—2m.)

Fuel—Plentiful.

Fodder—Scarce grazing.

Supplies—Nil.

NOTE.—There is another route *via* the old cart track from PANGPEN to NAM TI. This is steep and overgrown. The track reported on is recommended as it saves $1\frac{1}{2}$ miles.

ROUTE D-28.

NAM PAWNG—TA HSAILENG.

Length :—65m. 3f.

6 Stages.

Epitome—

Unmetalled road. Fit for light M.T. (30 cwt. lorries) in dry weather, and to cart traffic in rains, to NAWNGLENG (LOIMAW). Thence a mule track. Impassable in the rains owing to the NAM MA in stage 5 which is unfordable in that season. Passes through dense jungle in stages 1, 2, 5 and 6 and through open undulating country in stages 3 and 4. The last two stages are very difficult for battery mules owing to the steepness of the gradients and narrowness of the path.

C.G.—For 1 Bn. throughout.

Water—Plentiful throughout.

Fuel—Available stages 1—4.

Plentiful stages 5, and 6.

Supplies—Negligible.

NOTE.—At NAM PAWNG this route joins Route D-4.

At TA HSAILENG this route joins D-84 on far side of SALWEEN (also D-31 and D-32).

Stage 1.

NAM PAWNG—NA TUT.

14m. 4f.

The road branches L. from Route D-4 at M.S. 25m. 6f. General direction E. to NA YA then N.E. Country traversed is thick jungle. The road rises gently 200 ft. in the first mile.

1m. 5f.

C.G. for 1 Coy. with *C.G.* for 1 Bn. 200 yds. further on. Water from stream on L.

ROUTE D-28—*contd.*

- 1m. 6f. Cart track L. to KONGPOW.
 1m. 7f. Cart track L. to MANSE, and R. to NAM MA.
 2m. 5f. Cart track L. to KAWNGSAM.
 2m. 7f. Bridge; approaches bad.
 3m. 4f. Cart track L. to PING LONG.
 3m. 7f. Road divides and rejoins 1f. further on—the right hand road being the better.
 4m. 4f. KONGSONG (Shan, 17h)—ample C. G. good *zayat*, open cultivation, water from stream at 4m. 5f.
 4m. 5f. 90 ft. wooden bridge in bad condition; paddy land on R.
 6m. 1f. NAHSANGKYENG and paddy fields on R.
 6m. 2f. Track R. to NA YA (S.).
 6m. 4f. NA YA (Shan, 20h)—C.G. for 1 Coy. in rains in village, unlimited in paddy fields in dry weather. Water from stream near paddy fields reported *somewhat* scarce in dry weather. Good large *zayat*. Paddy up to 400 baskets normally available.
 7m. 6f. Footpath R. to NAWNG HPAKKUT.
 8m. Small perennial lake on L. called NAWNG-KWANG. C.G. for 1 Coy. at E. end of lake; or more with clearing.
 8m. 4f. Steep drop of 1/8 for 50 yds.
 9m. 2f. Cart track R. to HAMO.
 11m. 1f. KONG MONG (Shan, 27h). Bazaar, C.G. for 1 Bn. near good, big *zayat*. Unlimited water from big perennial stream, clean and good, to E. of village, 200 baskets paddy normally available: 400 at 3 days' notice.
 11m. 4f. Bazaar and open space. L. HAMO village stretches along road for 2f.
 11m. 6f. Large stretch of paddy land on both sides of road.
 11m. 7f. Bridges over 2 fast flowing perennial streams.
 12m. 2f. TONGHKAM (Shan and Palaung, 7h).
 13m. 1f. Bridge over small stream, the NAM PAWNG river being 100 yds. L.
 13m. 2f. Cart track L. to NA NANG crossing NAM PAWNG by ford in dry weather only.
 13m. 3f. Cart track R. to NAWNGKUT; L. to NA NANG.
 13m. 7f. NAM PAWNG river 50 yds.—L. low lying expanse of paddy fields on both sides of river.
 14m. C.G. for 1 Bn. in clearing R. road; water from NAM PAWNG. Alternative sites on bank of river.
 14m. 2f. **NA TUT** (Shan, 10h).
 14m. 4f. C.G.—Both sides of road; scrub jungle needs clearing.
 Water—From stream at 14m. 5f.
 Fuel—Available.
 Fodder—Jungle grazing.
 Supplies—Nil.

NA TUT—HPA TANG.

- 11m. 6f. General direction N. E. to SU HON, E. to NAM-HSIN, thence S. E. to HPA TANG. The road undulates in a valley until the last 5 miles when it climbs approximately 1,000 ft. The country traversed is for the most part thick jungle.

ROUTE D-28—*contd.*

The M. S. change at 24m. 6f. where a new series, beginning at 0, commences.

- 6f. MAN WING (Shan, 6h). C.G. for 1 Bn. Water from stream beyond village.
- 1m. 3f. Cart track L. to NA MAK (Lower).
- 1m. 4f. NA MAK (Upper) (Shan, 16h).
- 1m. 6f. Cart track L. to SE PAWNG.
- 2m. 5f. SU HON (Shan, 8h).
- 3m. 1f. Cart track L. to SE PAWNG.
- 3m. 3f. Culvert with very bad approaches; road passes through paddy land.
- 4m. Big, lattice girder, wooden bridge, large expanse of paddy land. Track L. to NAMONG (Shan, 18h), 4f. distant, across NAM PAWNG river.
- 5m. 4f. NAMHSIM (Shan, 19h). C.G. for 1 Bn. with a little clearing and water from bamboo pipe 100 yds. R. 100 baskets paddy usually available.
- 6m. Large bridge over river NAM HSOM (W). Ford 100 yds. below bridge, average depth 3 ft.—4 ft. in dry weather. Average width of river 70 ft. at ford.
- 6m. 1f. C.G. for 1 Coy.
- 6m. 2f. C.G. for 1 Bn. Paddy fields L.
- 6m. 4f. Bridge over NAM HSOM (E), (fast flowing, 50 ft. \times 2 ft. average). Steep laterite slope of 1/8, for about $\frac{1}{4}$ m.
- 7m. 5f. Steep slope of 1/8, badly rutted for 1 ft.
- 7m. 6f. C.G. for 1 Coy. alongside stream.
- 8m. 4f. LUN POK (Shan, 22h). C.G. for 1 Bn. Water very scarce. Large stretch paddy land beyond village.
- 8m. 7f. Road climbs for $\frac{1}{2}$ mile with steep slope, surface bad, deep ruts and boulders.
- 9m. 7f. Large perennial spring reported never to dry up.
- 10m. Steep slope 1/8 for 200 yds.; road rutted and stony; narrows and turns sharply.
- 10m. 1f. Swamps on either side of road, route is good and dry.
- 10m. 2f. Dry weather motor road R to MANKAT *via* MONG-TAWN. Road reported to be fairly level with no steep hills; bridges said to be bad, particularly that over NAM HUN which is very shaky. Nevertheless the road is occasionally used by motor cars and has milestones.
- 11m. Steep stretch, 300 yds. with 1/8 maximum, badly rutted and with boulders; a water course during the rains.
- 11m. 2f. Track L to B.M.P. Visual signal station on line LASHIO—TANGYAN.
- 11m. 4f. Cart track R to NAWNGKYANG, and L to HPA TANG.
- 11m. 6f. Cart track L to MANHPANG; R to NAMPYEK.
-
- 26m. 2f. **HPA TANG** (Shan, 18h).
 C.G.—Ample, both sides of road, some clearing would be necessary.
 Water—From large tank 200 yds. L of road.
 Fuel—Available.
 Fodder—Jungle grazing.
 Supplies—Nil.

ROUTE D-28—*contd.*

Stage 3.

HPA TANG—NAMHU PANGSE.

- 11m. 3f. General direction S. E. to MONGMA, thence N. E. road undulates to MONGMA, thence climbs steadily; a total rise of approx. 1,000 ft. in the last 6 miles. Country traversed is open scrub jungle and downs, to MONGMA; thereafter scrub jungle with numerous hill clearings.
- 2f. Footpath R. to NAM PYEK.
- 1m. Cart track L. to HPA TANG; R. to NAM PYEK.
- 1m. 2f. A very sandy piece of road for 100 yds. Open *taungya* country for 1m.
- 2m. 5f. MAKMU (Shan, 6h). Very large bamboo grove. The country up to here is open and rolling on R. and fairly thick scrub jungle on L. Cart track L. to LOI WAW.
- 3m. 6f. Open down-land commences. From hill to R, above this corner, view across downs to MANKAT and TANG-YAN is obtained. No trees in view from E. to S. W. Ample coarse grazing, but this dries up in the dry weather, and grazing can only be found in the scrub jungle. View from hill to L. of road N. W. to N. E. scattered scrub jungle.
- 4m. Hill section falling steeply, never more than 1/8 for short stretches. Road narrows to 10 ft. in places; one bad hairpin bend.
- 4m. 3f. Hill section ends.
- 4m. 4f. Paddy fields stretching for at least 1m. on each side of road up and down narrow shallow valley with downs on both sides. Road commences to climb gently.
- 5m. 2f. End of downs; road falls steeply down a valley 1/8 for a short stretch.
- 5m. 5f. Cart track R. to NAMHUN and MANKAT, cross stream stream and paddy fields on L.
- 5m. 6f. A steep climb of 100 yds. into MONGMA (Shan, 68h); 5th day bazaar; paddy scarce, 40 baskets normally available. Roads meet from every direction; a big market centre. A good bamboo bungalow.
- 6m. 1f. C.G. for 1 Bn. near pagoda; water from NAM PANG river.
- 6m. 2f. 50 ft. bridge over NAM PANG; river 30 ft. x 4 ft. average depth.
- 6m. 3f. Large *kyau* on R. in bamboo grove; road commences to climb again.
- 6m. 4f. Cart track L. to KUN NYONG (Shan, 19h), 200 yds. and cart track L. to MAN PANG, 3m.
- 7m. 1f. KONG KAM (Shan, 3h). Low scrub jungle on both sides of road.
- 8m. 4f. Road climbs steadily, centre of road a water course in the rains.
- 9m. 2f. Cross saddle, footpath L. to NAM KWONG, road falls steeply for 1f.
- 10m. Footpath L. to NAM KWONG; R. to KUNLONG, very steep valley on R.
- 10m. 2f. NAM KWONG, (Shan-La-Wa) village 400 yds. across steep narrow valley.

ROUTE D-28—contd.

- 10m. 3f. Boundary pillar between LOI MAW and MONGMA on narrow col.
- 10m. 5f. Footpath R. to PANGPAO, 3m. Road here is steep for $\frac{1}{2}$ m.
- 11m. 3f. Footpath R. to NAMHU PANGSE (Shan-La-Wa, 15h).
- 37m. 5f. C.G.—For 1 Bn. on right of road. A little clearing would be necessary. C.G. is on slope.
Water—From stream on R.
Fuel—Available.
Fodder—Jungle grazing.
Supplies—Nil.

Stage 4.

NANHU PANGSE—NAWNGLENG (LOI MAW).

- 7m. 3f. General direction N.E. Road climbs steadily for 3m. thereafter undulates along a ridge with a final gentle climb into LOI MAW. Total rise approx. 1,200 ft. Country traversed is scrub jungle and disused opium poppy fields. Water is very scarce all along this stage.
- 0m. 0f. Road turns sharply left and crosses a saddle.
- 1m. Footpath R. to NAMHU (Chinese). Possible C.G. for 1 Bn. or more with water 1,000 yds. away in valley to right.
- 1m. 5f. Footpath L. to KONGPOK (Shan-La-Wa, 4h).
- 2m. Road very bad, rocky and soft alternately; short steep slope $\frac{1}{8}$ average; road narrows to 10 ft.
- 2m. 1f. LOI HPWI (Chinese, 4h); water very scarce in dry weather.
- 2m. 2f. Footpath L. to PANGYAO.
- 2m. 3f. 50 yds. very steep 7. Country to R. and L. old opium poppy fields.
- 2m. 4f. Footpath L. to MANG PUM (Palaung, 4h), 300 yds. distant.
- 2m. 7f. Top of long climb.
- 3m. 1f. Footpath L. to KONGHSA (Palaung), 2m. distant; rolling plateau all old opium cultivation.
- 3m. 5f. Footpath R. to PANGHSANG (Palaung, 3h), 1m. distant.
- 4m. 4f. Footpath R. to HPAHPONG (Palaung, 7h), 800 yds. (New site not shewn on map). Footpath L. to KONGHSA.
- 4m. 7f. Footpath L. to NAM LIN, R. to HPAHPONG.
- 5m. 1f. Old site of HPAHPONG (which derives its name from the caves, in which bees swarm) in the cliffs on R.
- 5m. 5f. Footpath R. to NAWNGLENG Bazaar.
- 5m. 6f. Old road to NAWNGLENG across col. to R.
- 6m. Footpath L. to NAM LIN, $\frac{1}{2}$ m.; road winds gently up-hill.
- 6m. 4f. NAWNGLENG bungalow on L.
- 6m. 5f. NAWNGLENG bazaar. Old road joins from R. (Chinese, 87h). Bazaar. At NAWNGLENG this route crosses route 26.
- 45m. 0f. C.G.—Both sides of road; very large area.

ROUTE D-28—*contd.*

Water—From stream at M.S. 20m. 3f. ample in rains stated to be much the same in dry weather. Alternative supply 300 yds., R. of road at M.S. 20m. 1f., and left of road $\frac{1}{4}$ m. from C.G. from small bamboo pipe spring.

Fuel—Available.

Fodder—Jungle grazing on hills in dry weather.

Supplies—1,000 viss potatoes available in season; up to 3,000 viss available at 3 days notice. Crop is gradually sold to traders from LASHIO, TANG-YAN, etc. Paddy scarce. Up to 100 mules available at one week's notice, up to 500 at one month's notice (the mules are available, the delay being due to the necessity for collecting saddles for them).

NOTE.—From C.G. a mule track leads back to village.

Stage 5.

NAWNGLENG (LOI MAW)—MAN MAK.

- 9m. 0f. General direction N. E. The track undulates for the first mile and a half through open country then drops in a series of steep steps through scrub, and thick jungle.
- 0m. 0f. LOI MAW bungalow.
- 2f. Track turns L. at well and follows along paving through LOI MAW.
- 4f. Track R. to C.G. $\frac{1}{2}$ mile.
- 1m. 5f. Top of gentle rise, country to here being open. Track L. short cut impassable to mules.
- 1m. 6f. Track R. to LOI LAN (Lihsaw). Track drops steeply. Maximum gradient $1/5$.
- 2m. Short cut rejoins from L. Track passes through narrow valley, fairly level.
- 2m. 2f. Steep drop $1/3$ for 100 yds.
- 3m. 6f. Scrub jungle commences; the last $\frac{3}{4}$ m. being through narrow valley.
- 4m. Thick jungle commences. Old site of LOI LAN village now moved up the hill.
- 4m. 3f. Route to MANPANGLAO takes off to R. (see Route No. 29).
- 4m. 6f. Steep descent of $1/4$ for 150 yards.
- 5m. PING HKAN (Palaung, 5h); cross perennial stream.
- 5m. 3f. Track R. to MANPANGLAO followed by very steep steps. Maximum $1/3$ for short distances.
- 6m. 4f. C.G. for 1 Bn. in paddy fields; water from perennial stream.
- 6m. 6f. Track L. to KWONG HPA KAO. Track here is even $1/1$ for 100 yds. but could be improved with little work.
- 7m. Track L. to HPA KAO.
- 7m. 4f. Swampy bottom which never dries out.
- 7m. 7f. Ample C.G. in hill clearing on L; water from perennial stream on R. Track R. to MAN PALAUNG (Palaung, 1h.).
- 8m. 2f. Very steep for 200 yds. maximum $1/3$.
- 9m. Track R. to MAN MAK (Shan, 13h) 1 mile distant.
- 54m. C.G.—Ample in paddy fields.

ROUTE D-28—concl'd.

Water—Ample from various streams through paddy fields.

Fuel—Unlimited.

Fodder—Grass for 200 mules. Could be supplied by village. Ample jungle grazing.

Supplies—Nil.

Stage 6.

MAN MAK—TA HSAILENG.

11m. 3f.

General direction N. to NAM MA crossing; thence N. E. The track drops very steeply to the NAM MA maximum drop 500 ft. in 1 mile. From the NAM MA crossing the path rises and falls fairly steeply. The country traversed is thick jungle with occasional clearings, small streams are continually crossed.

1m.

Track R. back to MAN MAK.

1m. 5f.

Path L to MAN NA NOI (Shan-La-Wa, 7h), 1m. distant.

1m. 6f.

Very steep drop, maximum 1/2 for short stretch.

2m.

Very dense jungle: track drops steeply in steps. Average 1/3, maximum 1/2 for short stretches, a total drop of 500 ft. in the mile.

3m. 2f.

Paddy fields—path L to MAN NA.

3m. 3f.

River NAM MA flowing L. to R. current in rains 4—5 m.p.h., width 70 ft. approx., depth stated to be 6 ft. in rains, and waist deep but fordable by mules in dry weather. Ford is diagonal to 50 yds. down stream. Site of old Gold Mining enterprise; steel tower still existent. Near bank level, far bank rises 1/1 for 60 ft. Ample C.G. in paddy fields on far bank.

3m. 5f.

Track L. old disused cart track to Lashio via MON-GYAW.

3m. 6f.

NAM HTI (Shan, 9h).

4m. 4f.

Track climbs steeply for some distance; a total rise of 400 ft. and then falls steeply for 1f.

6m.

Track rises and falls steeply crossing 3 perennial streams in next 1½ miles.

7m. 5f.

NA NGAN (Shan, 10h) and KAWNGPONG (Shan, 5h) across the NAM MA river. C.G. for 1 Bn. in paddy fields; water from NAM MA river. The track now passes through clearings for the next mile.

8m. 5f.

Track drops steeply to NAM MA river and a small tributary is forded.

8m. 6f.

C.G. 1 Bn. in clearing. Track now rises for the next mile, maximum 1/4.

9m. 7f.

Very boggy stretch for next 1½ miles.

11m. 2f.

Tracks divides to different portions of TA HSAILENG.

65m. 3f.

TA HSAILENG (Wild Shan, 18h.).

C.G.—Ample around village.

Water—Unlimited; but muddy from SALWEEN.

Fuel—Unlimited.

Fodder—Jungle grazing.

Supplies—Negligible. Salt up to 500 viss.

NOTE.—For Notes on ferry, see Appendix "River Crossings" at end of book.

'ROUTE D-29.**NAWNGLENG—TA KAWNG PONG (Ferry).**

Length :—21m.

3 Stages.

Epitome—

A dry weather mule track which would not stand up to constant traffic in the rains; in the open season the jungle across the track is normally cleared to a breadth of 6 ft. Track falls steeply for first 4 miles, thence level for 4 miles, thence another steep descent followed by steep ascent. Thence by long descent to TA KAWNG PONG ferry. Gradients not more than $\frac{1}{3}$ in worst places. Tps. could generally operate off the road except in stage 2.

C.G.—Scarce throughout.*Water*—Scarce stage 1; plentiful in remaining stages.*Fuel*—Scarce stage 1; plentiful in remaining stages.*Fodder*—Jungle grazing.*Supplies*—Nil.**Stage 1.****NAWNGLENG—PA HPANG.**

8m. 7f.

General direction N.E. The track undulates for the first mile, drops steeply in steps for 3 miles, then winds round the side of a precipitous hill with a slight downward trend. Maximum slope $\frac{1}{3}$ for short distances.

Follows Route D-28 to mile $\frac{4}{3}$, where the track branches R.

4m. 4f.

C.G. in fields, and old clearings, but no water.

8m. 4f.

Track R. to NAULONG (3h, Chinese), 5 miles distant. The track, after branch at 4m. 3f., as far as this, is very easy as it winds along the side of a very steep hill through hill cultivation and grass.

8m. 7f.

PA HPANG (5h, Palaung).*C.G.*—In scrub jungle—needs clearing.*Water*—From spring stated to be ample even in dry weather.*Fuel*—May become scarce if frequently used.*Fodder*—Jungle grazing.*Supplies*—Nil.**Stage 2.****PA HPANG—MAN PANGLAO.**

7m. 4f.

General direction N. E. The track is difficult dropping very steeply for five miles, the maximum drop being 600 feet in six furlongs (i.e., an average of nearly $\frac{1}{3}$). For the remaining two miles, the track climbs steeply with the rise of 700 ft.

2f.

Track L. to MAN MAK.

4f.

Jungle begins. Steep drop.

7f.

Track L. to MAN MAK.

1m. 2f.

Track L. to MANHKUM (1h, Palaung). Track R. to PA HPANG. The road undulates during the last $\frac{1}{2}$ mile.

1m. 5f.

MAN HKONG (4h, Shan-La-Wa). Track R. to PA HPANG.

ROUTE D-29—*contd.*

- 2m. 2f. C.G. in old *taungya* on both sides of track needs clearing: water from perennial stream. A steep drop for last $\frac{1}{2}$ mile.
- 2m. 4f. Track climbs 100 yds. at $\frac{1}{3}$ followed by a very severe drop.
- 2m. 6f. Track R. to PA HPANG (20h, Shan-La-Wa), 1m. distant.
- 3m. Track turns sharp L. Track R. to NA NIU *via* PA HPANG —MANTENG—NAM MUSE—HSUN KWE (see Route No. 12, Stage 1).
- 3m. 1f. Path crosses stream and drops steeply, maximum $\frac{1}{3}$.
- 3m. 4f. Jungle ceases, grass and scrub begins.
- 3m. 6f. The track now drops very steeply, 600 ft. in 6f.—impassable after heavy rain.
- 4m. 3f. NAWNGKUN (5h, Shan-La-Wa).
- 4m. 4f. Bottom of drop C.G. for 1 Bn. Water from stream on L. Track from MAN MAK joins from L. D-30.
- 4m. 5f. Track R. to Upper NAWNG KUN. Track crosses 10 ft. stream (perennial) and then drops steeply in steps down steep spur for $\frac{1}{2}$ mile.
- 5m. 3f. Track crosses two large streams separated by a very narrow, steep, rocky ridge by a deep narrow cutting through which the track passes. This would need improvement before regular use as the cutting is only 4 ft. wide, 3 ft. above the track. The track now climbs up a steep ridge through thick jungle with a rise of 550 ft. in the next mile.
- 6m. 4f. Track continues to climb steeply on the side of a precipitous valley for a further 3f.
- 7m. 1f. Jungle ceases; hill cultivation begins.
- 7m. 2f. Track L. to TA HSAILENG D-32. Track turns sharp R. through very muddy fields.
- 16m. 3f. **MAN PANGLAO** (1f. beyond C.G., 19h, Shan. Good large *zayat*).
 C.G.—Ample in large expanse of paddy fields.
 Water—From large perennial streams in paddy fields.
 Fuel—Available.
 Fodder—Villagers could cut grass for 100 mules in wet weather and for 25 mules in dry weather. Jungle grazing. Hills get burnt in dry weather.
 Supplies—Nil. Paddy scarce.

Stage 3. MAN PANGLAO—TA KAWNG PONG (Ferry).

- 4m. 5f. Cross paddy fields and pass through village. Taking track past *kyaung*.
- 7f. Track R. to KAWNGHUNG (6h, Wa), $3\frac{1}{2}$ miles distant. Track L. to KAWNGHSANG (8h, Wa) D-31.
- 2m. 1f. Track drops steeply down ridge at a gradient of approx. $\frac{1}{4}$.
- 2m. 3f. Track L. to KAWNGHSANG.
- 2m. 5f. C.G. for 1 Bn. in paddy fields on R. Water from perennial stream.
- 3m. 2f. Track L. to KAWNGHSANG and view of TA KAWNG PONG village and MAN MEN.

ROUTE D-29—*concd.*

21m.

TA KAWNG PONG FERRY. (Ferry details of ferry crossing, see Appendix "River Crossings" at end of book.)

NOTE.—TA KAWNG PONG FERRY. There is no village or C. G. on near bank of river—The village is on far bank and consists of 12h—WA—8 guns. There appears to be a possible C.G. above the village but this site is probably rather steep.

ROUTE D-30.

MAN MAK—MAN PANGLAO.

Length :—9m. 1f.

1 Stage.

Epitome—

A dry weather mule track, not suitable for constant traffic in the wet weather. The track rises gently for 3 miles, and then drops gently for 3 miles, followed by a very steep drop for 1 mile, and a steep climb for 2 miles. The country traversed alternates between *taungya* or coarse grass and thick jungle.

Stage 1.

MAN MAK—MAN PANGLAO.

- 9m. 1f. The track passes across paddy fields for 3f. and then enters thick jungle, climbs steadily with a final 150 yds. at an average of $1/4$.
- 1m. 2f. Track R. to LOI MAW. The track then follows a water course for 100 yds. Thick jungle ceases; *taungya* and coarse grass commence.
- 1m. 7f. A steep drop and subsequent rise, at $1/4$ average, for 50 yds.
- 2m. 4f. Track R. to HPA HPUNG (10h, Palaung and Shan-La-Wa), 3 miles distant.
- 2m. 6f. Steep climb $1/3$ for 50 yds.—diversion possible. View across SALWEEN To LOI HENG 63° degrees with broad path running up ridge to VINGANG.
- 3m. Steep drop $1/3$ for 100 yds. followed by similar rise.
- 3m. 2f. Thick jungle commences.
- 3m. 4f. Track L. to MANHSAWK (7h, Shan-La-Wa), 4 miles distant.
- 4m. Track L. to MANHSAWK. Track R. to HPA HPUNG.
- 4m. 2f. Track L. to MANHSAWK. Track falls steeply $1/4$ and emerges after $1/4$ mile into grassland.
- 4m. 6f. Track drops steeply—20 yds. at $1/2$.
- 5m. Track drops steeply in steps for 200 yds. at a maximum of $1/4$. Thick jungle for $1/4$ m. Track passes along edge of steep hill.
- 5m. NAWNG KUN (5h, Shan-La-Wa).
- 6m. 1f. C.G. for 1 Bn. Water from large perennial stream.

ROUTE D-30—*contd.*

9m. 1f.

MAN PANGLAO.

C.G.—Ample in paddy fields.*Water*—From perennial streams.*Fuel*—Available.*Fodder*—Jungle grazing. Grass for 100 mules in rains and for 25 mules in dry weather; could be collected with notice.*Supplies*—Nil.

NOTE.—Village of MAN PANGLAO is one furlong beyond C.G.

ROUTE D-31.

MAN PANGLAO—TA HSAILENG (VIA PANG YOK).

Length:—11m. 1f.

2 Stages.

Epitome—

A dry weather mule track which would not stand up to constant traffic in the rains. Passes through scrub and thick jungle, with open patches in Stage 1 and undulates through dense jungle on the r.b. of SALWEEN in Stage 2. The jungle is normally cleared to a breadth of 6 ft. over the track when open. The track drops steeply for the last 4 miles of Stage 1 and there is a steep climb, and a descent just before reaching TA HSAILENG in Stage 2. AT PANG YOK at the end of Stage 1 there is a ferry where 6 dugouts can be obtained. Animals must swim but are normally swum across at TA HSAILENG and NOT here owing to currents, etc. It appears that much time would be wasted in crossing a force of any size here.

The ferry at TA HSAILENG is a more serviceable one, there being 32 dugouts in all. In dry weather the two larger dugouts can be lashed together to take 10 mules in one load. Mules otherwise have to swim across, the best place being 1 mile upstream from the normal ferry.

C.G.—(a) Slightly restricted on near bank in Stage 1 but ample space 400 yds. upstream of HSOPMA on far bank.

(b) Practically nil in Stage 2 on near bank. Unlimited near MONGNAWNG on far bank.

Water—Plentiful from river.*Fuel*—Available.*Fodder*—Jungle grazing.*Supplies*—Nil.

NOTE.—This route joins D-28 and D-32 at TA HSAILENG, and D-29, D-30, D-32 at MANG PANGLAO.

Stage 1.

MAN PANGLAO—PANG YOK.

6m. 5f.

Cross paddy fields and pass through village taking track past *kyauing*.

7f.

Track R. to KAWNGHUNG (6h, Wa), $3\frac{1}{2}$ miles distant.
Track R. to TA KAWNG PONG (see Route No. D-29).

ROUTE D-31—*contd.*

- 2m. 4f. Steep drop to spring followed by steep rise.
 2m. 5f. Track L. to LOI YOK (9h, Wa), 1 mile distant, and short cut L. to MAN PANGLAO.
 2m. 6f. KAWNGHSANG (8h, Wa). Here C.G. for 1 Bn. Water scarce in dry weather; in wet weather from spring well at 2m. 4f.
 2m. 7f. Track R. to TA KAWNG PONG.
 3m. 1f. C.G. but no water—track drops through hill clearings.
 4m. Thick jungle commences.
 4m. 5f. Track drops very steeply; 800 ft. in 2m.
 6m. 2f. Track L. to TA HSAILENG.
 6m. 4f. **PANG YOK** (14h, Wild Shan).
 6m. 5f. Ferry.
 C.G.—Restricted near village.
 Water—From river.
 Fuel—Obtainable.
 Fodder—Obtainable.
 Supplies—Nil.

NOTE.—For notes on Ferry see Appendix "River Crossings" at end of book.

Stage 2.

PANG YOK—TA HSAILENG.

- 4m. 4f. The path forks from the ferry, site and passes through pan-leaf grove.
 4f. Very steep climb for 50 yards followed by narrow cutting which needs a little work to make it passable for mules; this could be done by local labour. Shortly after this a track from PANG YOK village joins from L.
 2m. 1f. Opposite and in line with the mouth of river NAM MA (Trans-Salween) estimated 80 yds. wide. In dry weather a large rocky island is stated to be visible in mid-stream at this point.
 2m. 5f. Ample C.G. in open grassy slopes.
 2m. 6f. Track leaves SALWEEN and turns up NAM MA valley along cliff 100 ft. above stream.
 2m. 7f. River NAM MA is crossed by natural bridge.
 Track L. to MAN PANGLAO.
 3m. 1f. The track climbs steeply out of the NAM MA valley and rejoins bank of SALWEEN.
 3m. 4f. After short stretch along precipitous hillside the track drops steeply to *taungya*.
 3m. 7f. *Taungya* ends and scrub jungle commences.
 11m. 1f. **TA HSAILENG.** (Wild Shan, 18h).
 C.G.—Ample around village.
 Water—Unlimited but muddy from SALWEEN.
 Fuel—Unlimited.
 Fodder—Jungle grazing.
 Supplies—Negligible. Salt up to 500 viss.

NOTE.—For notes on Ferry crossings, etc., see Appendix "River Crossings" at end of book.

ROUTE D-32.

MAN PANGLAO—TA HSAILENG.

Length:—7m.

1 Stage.

Epitome—

A dry weather mule track which will not stand up to constant traffic in the wet weather. The track falls for 3 miles with a drop of approximately 1,000 ft. in 2 miles, then, having climbed out of the NAM MA valley, drops easily into TA HSAILENG. The country traversed is scrub, and *taungya* for the first 3 miles, followed by 3 miles of thick jungle, and 1 mile of scrub and clearings.

Stage 1.

MAN PANGLAO—TA HSAILENG.

- 7m. 4f. Track L. to LOI MAW (NAWNGLENG) not normally used by mules.
- 5f. Track crosses large perennial stream.
- 7f. Ample C.G. in large stretch of paddy land.
- 1m. Ample C.G. under large trees.
- 1m. 3f. MAN HPANSAMONG (6h, Shan).
- 1m. 5f. Track L. to KAWNGHIU, KAWNGPONG and NANGAN.
- 2m. Track L. to KAWNGHIU.
- 2m. 1f. KAWNGHSUNG (10h, Shan).
- 2m. 2f. Ample C.G. ; water from stream at 2m. 3f.
- 2m. 7f. Track L. to KAWNGHIU (2h, Shan), $1\frac{1}{2}$ miles distant.
- 3m. 1f. Top of rise ; track now falls steeply through *taungya* and coarse grass.
- 4m. 3f. Track has dropped 400 ft. in last mile and now drops very steeply 500 ft. in the next mile through thick jungle, the last $\frac{1}{2}$ mile being the steepest, averaging $\frac{1}{4}$.
- 5m. 3f. Track crosses NAM MA river by natural bridge. Track R. to PANG YOK.
- 5m. 5f. The track climbs steeply out of the NAM MA valley and follows up the right bank of the SALWEEN.
- 6m. After a short stretch along a precipitous hill side, the track drops steeply to
- 6m. 3f. *Taungya* ends and scrub jungle commences.
- 7m. TA HSAILENG (Wild Shan, 18h).
 C.G.—Ample around village.
 Water—Unlimited, but muddy from the SALWEEN.
 Fuel—Unlimited.
 Fodder—Jungle grazing.
 Supplies—Negligible. Salt up to 500 viss.

NOTE.—For notes on Ferry Crossings, etc., see Appendix "River Crossings" at end of book.

ROUTE D-33.

TANG-YAN—TA HTI and TA KWE PONG
(Salween Crossings).

Length :—22m. 6f.

2 Stages.

Epitome—

A dry weather motor road to 14m. 1f., which will not stand up to constant heavy M. T. unless bridges and culverts are strengthened. Thence a dry weather mule road which would not stand up to constant traffic in the rains.

The route passes through open rolling down to NAWN-
GHPA and thence through hilly country, steep in places
with gradients of $1/3$ and $1/2$.

NOTE.—This route could easily be made into a first class, all weather
motor road to NAWNGHPA.

C.G.—Good throughout.

Water—(a) in Stage 1—water only perennial at 10m. 2f.

(b) in Stage 2—Plentiful.

Fuel—Obtainable throughout.

Fodder—(a) in Stage 1—ample in the rains. Limited
in dry season.

(b) in Stage 2—Ample grazing.

Supplies—Nil.

NOTE.—At TANG-YAN this route joins Routes D-4, 93, 26, 35
and 34.

At TA HTI river crossing on far side of river joins Route D-92.

TANG-YAN—NAWNGHPA.

Stage 1.

12m. 5f.

0m. 0f.

2f.

3f.

4f.

5f.

6f.

TANG-YAN C.G.

Large bridge over stream—safe load 3 tons (M.S. 27).

TANG-YAN Bazaar.

Route to TA MANHSUM to R.

MAN U YIN (20h, Shan).

Cart road R. to NAWNGHKAM (20h, Shan, Shan-
La-Wa, Chinese).

1m. 3f.

(M.S. 1) End of bamboo and scattered villages round
TANG-YAN; open country commences.

1m. 7f.

MAN HPANG (5h, Shan).

2m.

Cart road R. to LONG POI (15h, Shan), 2 miles distant.

2m. 3f.

(M. S. 2) road turns sharp L. over broken culverts and
marsh. The road then turns sharp R. out of marsh.

3m. 7f.

NAM PUT (15h, Shan).

4m. 4f.

Track R. to LONG YAN (10h, Shan), $\frac{1}{2}$ mile distant.

5m.

Cart road R. to LONG YAN.

5m. 4f.

Small culvert.

7m. 7f.

KUNMAWNG (8h, Shan).

8m. 7f.

The track now commences to drop easily.

9m. 5f.

Small culvert.

10m. 1f.

MAN YEN (40h, Shan), stretches along the road for the
next mile. Ample C. G. near weak bridge at 10m. 2f. (near
M. S. 10) with water from perennial streams. There are two

ROUTE D-33—contd.

- large *zayats* at 10m. 4f. The village lies in a very large bamboo grove.
- 11m. 1f. A culvert and very muddy swamp.
- 11m. 2f. Cart road R. to MAN HWE KENG (20h, Shan), 3½ miles distant.
- 11m. 2f. Cart road L. to NAM YAWN (15h, Shan-La-Wa), 6 miles distant.
- 12m. The next furlong being between paddy fields is very cut up and muddy. There is also a culvert.
- 12m. 3f. (M. S. 12) NAWNGHPA village commences (38h, Shan). Bazaar. Three large *zayats*.
- 12m. 5f. C.G.—In paddy fields on L. or further across on open ground.
- There is an even better C.G. 1½ miles further on at 1m. 4f. in Stage 2.
- Water—Available.
Fuel—Available.
Fodder—Available.
Supplies—Nil.

Stage 2.

NAWNGHPA—TA HTI (TA KWE PONG).

- 10m. 1f. NAWNGHPA C.G.
- 0m. 0f. Bazaar; road forks L. round lake.
- 2f. Large *kyaung* and 3 *zayats*, Cart track R. to NAM HKA (15h, Shan), 2 miles distant.
- 4f. MAN KYWNG (Shan, 15h).
- 5f. Large culvert needs rebuilding.
- 1m. End of bamboo groves round NAWNGHPA and surrounding villages.
- 1m. 2f. Large C.G. with water from perennial stream on left edge. Minimum reported to be 6 ft. × 1 ft.
- 1m. 4f. Track R. to NAM HKA.
- 2m. Track R. to HSUNG NANG (7h, Shan-La-Wa), 2 miles distant.
- 2m. 1f. Boundary pillar SOUTH HSENWI—MOTHAI. Track L. to LUKHSAOTUNG (Wa, 7h), 1 mile distant.
- 2m. 3f. Track drops steeply and passes through rocks which need removing.
- 2m. 7f. Track L. for very steep short-cut; route turns R. Track drops steeply to MAN PING.
- 3m. MAN PING (16h, Shan), Bazaar.
- 4m. Track R. to MAN NAM HAWNG (8h, Shan), 1 mile distant.
- 4m. 1f. Paddy fields C.G. 1 Bn. with water from perennial stream.
- 4m. 5f. Track for next ¼m. much cut up by water course.
- 5m. Track L. to MAN LOI HPWI.
- 5m. 2f. Track L. to MAN LOI HPWI. Route drops steeply for next 3f. with short stretches of 1/3.
- 6m. 3f. Ample C.G. in fields with water from torrent 2 ft. × 2 ft.
- 7m.

ROUTE D-33—concl'd.

- 7m. 3f. MAN KAWNG SANG (8h, Kachin and Shan).
C.G. in paddy fields with water from stream at 7m. 4f.
- 8m. 2f. Track L. to KUN YAUNG (3h, Shan), 2f. distant.
- 8m. 4f. C.G. 1 Bn. in paddy fields with water from perennial stream. Track is level for next furlong.
- 9m. 6f. Track R. to TA KWE PONG.
- 9m. 7f. Track R. to TA KWE PONG.
- 10m. Track L. to NAM YAWN (16h, Shan, Shan-La-Wa, Chinese), bazaar, 10m. distant.
- 10m. 1f. Track drops very steeply down to ferry site. There is no village.
- 22m. 6f. C.G.—Ample could be cleared between the two ferry sites.

Water—Unlimited.

Fuel—Unlimited.

Fodder—Jungle grazing.

Supplies—Nil.

NOTE.—For Notes on ferry sites, see Appendix "River Crossings" at end of book.

ROUTE D-34.**TANG-YAN.**

From TANG-YAN there is a mule path though no information about it is available.

ROUTE D-35.**TANG-YAN—NAWNGHKAM.**

Length:—10m.

1 Stage.

NOTE.—At TANG-YAN this route joins Routes D-4, D-26, D-33, D-34 and D-93.

Stage 1.**TANG-YAN—NAWNGHKAM.**

10m.

An earth surfaced cart road. Fit for light M.T. in dry weather only. Very difficult in the rains, passing through undulating country.

10m.

NAWNGHKAM (Here road comes to a dead end).

C.G.—In *tawmaw* near paddy fields above bazaar.

Water—Limited.

Fuel—Limited.

Fodder—Limited.

Supplies—Negligible.

ROUTE D-36.

MAN PONG—NAM LONG.

Length :—15m. $\frac{1}{2}$ f.

1 Stage.

Epitome—

An unmetalled road usually fit for light M. T. throughout the year. Passes through open undulating country. At NAM LONG the route crosses the border into SOUTHERN SHAN STATES (Routes E.) and continues to KE-HSI MANSAM.

NOTE.—At MAN PONG this route joins Route D-5. This route continues into S.S.S. as Route E-9.

Stage 1.

MAN PONG—NAM LONG.

15m. $\frac{1}{2}$ f.

1m. 6f.

7m.

8m. 2f.

15m.

15m. $\frac{1}{2}$ f.

A road branches L. to MAN HPAI (D-5).

Passes MAN PIT.

Crosses a stream by stone bridge.

Crosses NAM LONG (80 ft. wide—unfordable) by suspension bridge.

NAM LONG.

C.G.—A good site just W. of village.*Water*—Plentiful from river.*Fuel*—Plentiful from jungle.*Fodder*—Limited.*Supplies*—Negligible.

ROUTE D-37.

NA-KANG—MONG YAI.

Length :—49m. 4f.

4 Stages.

Epitome—

A metalled road to HSAWNGKE, thence gravelled, usually fit for M. T. throughout the year. Passes through undulating open country with patches of sparse jungle throughout.

C.Gs.—Large throughout.*Water*—Plentiful throughout from streams near C.Gs.

Fuel—Plentiful from jungle Stages 1 and 2, obtainable only with previous notice Stages 3 and 4.

Fodder—Grazing throughout.

Supplies—Negligible. Small quantities available with previous notice.

NOTE.—(a) NA-KANG is only one easy march from HSIPAW (14 miles).

(b) At NA-KANG this route joins Route D-6.

(c) At MONG YAI this route joins route D-5.

ROUTE D-37—*contd.*

Stage 1.

NA-KANG—HSAWNGKE Camp.

15m. 4f.

A metalled road through open country with sparse jungle patches. Tps. could operate off the road.

15m.

Passes HSAWNGKE (50h., i.b.), thence turns E. off road to C.G.

15m. 4f.**HSAWNGKE.**

C.G.—For 3 Bns.

Water—From stream in village ($\frac{1}{2}$ m. distant).

Fuel—Plentiful from jungle.

Fodder—Good grazing.

Supplies—Negligible.

Stage 2.

HSAWNG KE—HSENGKIAO.

14m.

The road is now gravelled and is usually fit for M.T. throughout the year, country as in previous stage.

7m.

Passes through hilly country round NAMPENG.

29m. 4f.**HSENGKIAO (20h).**

C.G.—For 1 Div. with slight clearing.

Water—From stream in village.

Fuel—Plentiful from jungle.

Fodder—Plentiful—grazing.

Supplies—Negligible.

East of HSENGKIAO at 22° 24' 15" N., 97° 48' 40" E. the Japanese have made a new landing ground.

(January 1944.)

Stage 3.

HSENGKIAO—MANSANG.

10m.

Road and country similar to previous stages.

39m. 4f.**MANSANG (30h).**

C.G.—Unlimited in vicinity.

Water—From stream by village.

Fuel—Obtainable with previous notice.

Fodder—Grazing.

Supplies—Negligible.

Stage 4.

MANSANG—MONG YAI.

10m.

Road and country similar to previous stages.

49m. 4f.

MONG YAI (60h—residence of SAWBWA, S. HSENWI State). Here the route joins Route D-5.

C.G.—For 1 Div. in the vicinity.

Water—Plentiful from stream by village.

Fuel—Obtainable with notice.

Fodder—Grazing.

Supplies—Negligible. Small quantities obtainable with notice.

ROUTE D-38.**LOI-NGUN—HOTU.**

Length :—14m.

1 Stage.

Epitome—

Though the existence and length of this road are known,
no further data available.

LOI-NGUN (i.b.).

ROUTE D-39.**HSIPAW—HSAWNGKE—MAN PAN and KE-HSI MAN-SAM.**

Length :—52 m.

3 Stages.

Epitome—

Unmetalled road, earth surface. Fit for light M.T. in
dry season only. Fit for carts in rains. Passes through
undulating country.

NOTE.—At HSAWNGKE this route joins Route D-37
and runs *via* D-37 and D-6 to HSIPAW.

Stage 1.**HSAWNGKE—MAN PAN.**

18m.

14m.

18m.

HO-UN. An earth road, motorable in the dry season,
branches L. to join Route D-37 at HSENGKIAO (8m.).

MAN PAN (30h, i.b.).*Water*—Plentiful, from stream.*Fuel*—Plentiful.*Fodder*—Grazing only.*Supplies*—Nil.

At MAN PAN this route joins D-40.

Stage 2.**MAN PAN—MONG LA.**

18m.

18m.

At MONG LA the NAM LA is crossed by a bridge.
MONG LA (i.b.).

36m.

Stage 3.**MONG LA—KE-HSI MANSAM.**

16m.

9m.

10m.

13m.

Earth road, motorable in dry season, branches R. to
MONG TUNG, Capital of MONG TUNG State (13 m.).

The road crosses an iron bridge across the NAM HENG
river. This river is the boundary between the N.S.S. and
the S.S.S., and here the road leaves MONG TUNG State
(N.S.S.) and enters the State of KE-HSI MANSAM (S.S.S.).

Route E-9 branches L. to MONG YAI (*see* Route D-
36).

Route D-39—contd.

15m. Earth road (motorable in dry season) branches L. to MONG HSU.

16m. **KE-HSI MANSAM** (150h, i.b., Capital of the State and residence of the *Sawbwa*).

52m.

Water— } Available.
Fuel— }
Fodder— }

ROUTE D-40.**NAMLAN—MAN PAN.**

Length :—29m.

2 Stages. General Direction E.

Epitome—

Road fit for M.T. in dry season only and for cart traffic throughout the year.

Passes through dense undulating jungle. Very numerous streams are crossed by bridges.

This road connects route D-6 Stage 3 with route D-39.

At NAMLAN this route joins D-41.

NAMLAN (i.b.).

*Water—*Plentiful.

*Fuel—*Plentiful.

*Fodder—*Limited.

*Supplies—*Nil.

Stage 1.**HAMLAN—MONG HKO.**

15m.

Passes through tung plantations near NAMLAN. These plantations are not very large; they provide good cover and water is plentiful here.

2m.

KONGSHA.

12m. 4f.

NA LE. The MAN HKA river (40 ft. broad and fordable throughout the year) is crossed by a large wooden bridge.

15m.

A feeder of NAM HKA 80 ft. broad, 15-20 ft. deep—unfordable—is crossed by a large wooden bridge at MONG HKO.

15m.

MONG HKO (50h).

*Water—*Plentiful.

*Fuel—*Plentiful.

*Fodder—*Grazing only.

*Supplies—*Some Paddy and vegetables.

Route D-40—*contd.*

Stage 2.

MONG HKO—MAN PAN.

14m.

7m.

LOI PAN, the highest mountain in the neighbourhood (6,672 ft.), dominates the road.

29m.

MAN PAN (i.b.).

Water—From stream near village.

Fuel—Plentiful.

Fodder—Grazing only.

Supplies—Nil.

ROUTE D-41.

NAWNGPENG—NAMLAN.

Length :—50m. 5 Stages. General Direction F.

Epitome—

Unmetalled road throughout. Fit for M.T. in dry season.
Passes through densely forested mountainous country.

NOTE.—At NAWNGPENG this route joins Route D-1 Stage 3.

At MAN HTAM this route joins Route D-42.

At NAMLAN this route joins Routes D-6 and D-40.

NAWNGPENG (r.s., i.b.).

Stage 1.

NAWNGPENG—MAN HTAM.

14m.

0m. 6f.

9m.

Level crossing.

Road forks L. to HAI-KWI.

14m.

MAN HTAM (10h).

Water—Plentiful. From stream.

Fuel—Plentiful.

Fodder—Limited.

Supplies—Nil.

Stage 2.

MAN HTAM—TAWNGHTEK.

11m.

4m.

The road forms N. boundary of the TAWNGKYE Forest Reserve.

5m.

Crosses the NAM HSAWNG river (unfordable) by wooden bridge.

11m.

TAWNGHTEK (60h).

25m.

Water—Limited (from wells only).

Fuel—Plentiful.

Fodder—Limited.

Supplies—Nil.

Route D-41—*contd.*

Stage 3.

TAWNGHTEK—HKAIMAWN.

9m.
9m.

A very hilly stage.
HKAIMAWN (5h).

34m

Water—From spring in village.
Fuel—Plentiful.
Fodder—Nil.
Supplies—Nil.

Stage 4.

HKAIMAWN—NA-PANG.

8m.
7m.

A very hilly stage.
TA-TING-ANG. Crosses the NAMTU river by a suspension bridge 400 ft. long.

8m.

NA-PANG.

42m.

Water—From stream by village.
Fuel—Plentiful.
Fodder—Scarce.
Supplies—Nil.

Stage 5.

NA-PANG—NAMLAN.

8m.

NAMLAN (80h, i.b.).

50m.

Water—From stream.
Fuel—Plentiful.
Fodder—Fair supply.
Supplies—Very limited.

ROUTE D-42.

KYAUKME—MAN HTAM.

Length :—28m. 1 Stage. General Direction S.

Epitome—

Unmetalled road. Fit for M.T. in dry season only.
Very difficult for carts in rains—sharp bends half-way through stage. All streams fordable or bridged.
Passes through dense mountainous country.

Stage 1.

KYAUKME—MAN HTAM.

28m.

At MAN HTAM this route joins D-41.

2m. 2f.

Crosses Route D-41.

8m. 3f.

Road L. to NAMPYEN (10 furlongs).

21m. 0f.

HAI-KWI. Road branches R. to join D-41.

28m.

MAN HTAM (10h).

From MAN HTAM a road runs S. to the TAWNGKYE Forest Reserve and the NAM TU river (7m.).

ROUTE D-43.

LEPANDAW—KALAGWE.

Length :—21m. 4f.

2 Stages.

NOTE.—For continuity the whole route from MANDALAY to KALAGWE is reported upon. Four extra stages, i.e., MANDALAY—LEPANDAW (40m.) from Route H-54 UPPER BURMA, are included as Introductory Stages and attached at the beginning of this report.

Epitome—

A good mule track in Stage 1 through dense mountainous country. A good cart road in Stage 2 through undulating scrub covered country.

C.G.—For 3 Bns. throughout.

Water—Enough for 1 Bn. in Stage 1 only. Plentiful in Stage 2.

Fuel—Unlimited.

Fodder—Plentiful.

Supplies—Negligible.

NOTE.—At KALAGWE this route joins Routes D-44 and D-45.

MANDALAY—LEPANDAW—KALAGWE.

4 INTRODUCTORY STAGES FROM ROUTE H-54, UPPER BURMA.

MANDALAY—LEPANDAW.

Length :—40m.

4 Stages.

Epitome—

A good metalled road in Stages 1 and 2. Fit for all types of M. T. throughout the year. Unmetalled in Stage 3. Fit for light M. T., along MANDALAY CANAL Bank, in dry weather only. A good cart road to 5m. 4f., thence a good mule track in Stage 4.

Crosses the MADAYA twice in Stage 4.

C.G.—For 2 Bns. in Stages 1, 2 and 3.

For 1 Bn. in Stage 4.

Water—Unlimited.

Fuel—Unlimited, except Stage 1.

Fodder—Scarce Stages 1 and 2. Plentiful Stages 3 and 4.

Supplies—Plentiful Stages 1 and 2; otherwise *nil*.

NOTE.—At LEPANDAW this route crosses the border into N.S.S.* and becomes D-43.

INTRODUCTORY STAGES (4).

Stage 1.

7m. 4f.

MANDALAY—KYANIGAN.

Metalled road fit for all types of M. T. throughout the year—bridged throughout—passes through cultivation. Tps. could operate off the road. Road leaves Fort DUFFERIN by E. gate and runs N.

1m.

Passes MANDALAY Hill—L. and B. I. Lines—R.

ROUTE D-43—contd.

- 1m. 4f. Crosses SHWEGYIN *chaung*.
 4m. 6f. Road L. (metalled) to join MANDALAY-MADAYA
 Road. (Route H-53).
 5m. 5f. Passes PATHEINGALE (96h.).
 7m. 4f. **KYANIGAN.** (i.b.).
C.G.—For 1 Bn. on rising ground E. of village. Un-
 limited from (Dec.—May).
Water—Plentiful from wells.
Fuel—Obtainable with previous notice. Small quantities
 obtainable from hills E.
Fodder—Scarce (a) Grazing in paddy fields—Dec.—May.
 (b) Grass nil.
Supplies—1,000 baskets of paddy obtainable with previ-
 ous notice.

Stage 2.

KYANIGAN—LAMAING.

- 9m. Road and country similar to Stage 1. Tps. could operate
 off road.
 1m. Passes THEDAWMU.
 2m. 4f. Passes LIMWECHAUNG. Here road L. to LUNDAUNG
 railway station.
 3m. 4f. Passes SAGADAUNG.
 4m. Crosses NYOPYING (bridged—steep banks).
 5m. 2f. Crosses MANDALAY CANAL at NGAHMUN-DAUNG
 by masonry bridge. Thence country becomes dense.
 6m. 6f. Passes TANBINGON L. and KAUNGDA R. of road.
 9m. **LAMAING** (i.b., Canal Tel. Station 4f. beyond village on
 l.b. of canal).
 16m. 4f. *C.G.*—For 2 Bns. round d.b.
Water—Plentiful from canal.
Fuel—Plentiful from jungle.
Fodder—(a) Bamboo leaves plentiful.
 (b) Grazing limited.
Supplies—Negligible. Large quantities of paddy could
 be obtained from MADAYA with notice.

Stage 3.

LAMAING—SEDAW.

- 15m. Unmetalled canal road. Fit for light M. T. in dry weather.
 Liable to be cut up in the rains. Passes through dense jungle.
 Crosses canal by masonry bridge immediately after leaving
 d.b. and continues along r.b.
 4m. Cross cart roads (a) R across canal to LAMAING.
 (b) L. to ONHMIN.
 6m. Passes CHOBEY. Here canal bridge below aqueduct
 over THAPANGAING *chaung*.
 Cross roads over bridge (a) R to THAPANGAING (R.H.)
 (b) L. to ONHMIN.
 6m. 2f. Crosses THAPANGAING *chaung* by wooden bridge.
 10m. 4f. Passes OKPO.
C.G.—(a) For 2 Coys. scattered.
 (b) For 1 Bn. with considerable clearing.
Water—Plentiful from canal.

ROUTE D-43—contd.

Fuel—Unlimited from jungle.

Fodder—Plentiful.

Supplies—Nil.

At OKPQ the B.B.T.C. Railway crosses the canal, also a road L. along railway to SAGABIN (1m.); the route crosses canal by masonry bridge below railway bridge and continues along l.b. to

15m.

SEDAW (Tel., i.b.).

31m. 4f.

C.G.—For 2 Bns. round i.b.

Water—Plentiful from canal.

Fuel—Unlimited from jungle.

Fodder—Plentiful on canal banks.

Supplies—Nil.

Stage 4.

SEDAW—LEPANDAW.

8m. 4f.

A good cart road except first descent to MADAYA River, which though a mule track could easily be made fit for carts. After second crossing of MADAYA River the route becomes a good mule track. Passes through dense country.

2f.

Crosses MANDALAY CANAL and descends to MADAYA river (fordable—200 yds. downstream from sluice gates—dry weather only—300 ft. × 3 ft.—firm sandy bed—swift current—easy approaches. On far side meets track SAGABIN—BANDAUK).

5m. 4f.

Crosses 3 dry streams and 1 flowing—no obstacle. Passes BANDAUK and recrosses MADAYA River (ferry—1 dugout) (450 ft. × 4 ft.—swift current—easy approaches—fordable in dry weather only—150 yds. upstream from village).

On crossing passes BANDI and becomes mule track which could easily be made fit for carts.

7m.

Passes KAINGGYI (Burmese, 10h.).

8m. 4f.

Reaches **LEPANDAW**.

40m.

C.G.—For (a) 1 Bn. round *kyaung* with clearing.

(b) 1 Bn. in and round village with clearing.

Water—For (a) from stream N.W. of *kyaung*.

(b) from stream N. of village.

Fuel—Plentiful from jungle.

Fodder—Plentiful.

Supplies—Nil.

NOTE.—From this point this route becomes Route D:43 in N.S.S.

LEPANDAW—KALAGWE.

Length :—21m. 4f.

2 Stages.

Stage 1.

LEPANDAW—LAULONG.

12m. 4f.

Mule track, much overgrown, easy to clear.

Passes through dense jungle. Leaves LEPANDAW E. along KYAUKMO *chaung* and crosses this 9 times (average width—75 ft.—fordable).

ROUTE D-43—*contd.*

- 3m. 4f. Passes KYAUKMO. No village.
C.G.—For 1 Bn. with clearing.
Fodder—Grass plentiful.
Water, etc.—Available.
- 3m. 5f. Track R to TAUNGDEIK.
- 3m. 6f. Crosses PEIN DAGAUNG *chaung*.
- 3m. 2f. Crosses SHWEBU *chaung*.
- 7m. 2f. Passes NANKATHA (No village).
C.G.—For 1 Bn. with clearing.
Water—Available.
Fuel—Plentiful.
Fodder—Plentiful—Bamboo leaves.
Supplies—Nil.
- 7m. 4f. Begins ascent to Shan Plateau. Becomes a good well-graded road (1 in 6—1 in 8), with hairpin bends.
- 10m. Passes by steep detour—broken down bridge.
- 11m. 4f. Crosses NAPALAUNG *chaung*—ascent ends.
Thence along undulating ground to
- 12m. 4f. **LAULONG** (Shan, 10h.).
C.G.—For 3 Bns. in and around village.
Water—Available—village supply.
Fuel—Plentiful from jungle.
Fodder—Plentiful grass—some grazing.
Supplies—Nil.

Stage 2.

LAULONG—KALAGWE.

- 9m. A good cart road partially bridged. Passes through undulating scrub covered country. Tps. could operate off the road to a limited extent.
- 1m. 4f. Passes NAMAKUT (Shan, 8h).
- 2m. 4f. Passes KYAUKGYI (Shan, 12h), here—
C.G.—For 1 Bn. with clearing E. of village.
Water—From stream No. of *zayat*.
Fuel—Plentiful.
Fodder—Plentiful.
Supplies—Negligible.
- 4m. Passes PANGHPYA (Shan, 6h).
- 7m. 4f. Crosses KYAUKTAN *chaung*—bridged for Pack Tpt.
Fordable 50 yds. upstream from bridge.
- 21m. 4f. reaches **KALAGWE** (Shan, 50h).
C.G.—(a) For 1 Bn. round *kyaung* and pagoda.
(b) For 1 Bn. E. and S. of *kyaung* with clearing.
(c) For 200 men in *kyaung* and *zayat*.
(d) For 3 Bns. in paddy fields N. of village (Dec.—May).
Water—Unlimited—from stream and spring.
Fuel—Unlimited from jungle.
Fodder—Unlimited—Grass and grazing
Supplies—Negligible.

ROUTE D-44.

MAYMYO—YWATHIT—MONG LONG—MOGOK.

Length :—63m. 4f.

5 Stages.

NOTE.—For continuity the whole route from MAYMYO—MOGOK has been reported upon; 3 extra stage, *i.e.*, MAYMYO—YWATHIT (10m.) and MONG.

LONG—MOGOK (20m. 4f.) from Route H-140 UPPER BURMA, are included as introductory and extra stages, and attached here at the beginning and two at the end of this report.

YWATHIT—MONG LONG.

Epitome—

Stages 1-3 : fit for light M.T. in dry weather only. Very heavy in rains passing through dense undulating country. Stages 4 and 5—a fair mule track passing through dense mountainous country.

C.G.—Average for 2 Bns. A rest house in Stage 5; good *zayats* in Stages 1, 2, 3 and 4.

Water—Plentiful throughout.

Fuel—Unlimited throughout from jungle.

Fodder—Unlimited in Stages 1, 2, 3 and 5. Scarce in Stage 4.

Supplies—Large quantities of paddy obtainable with previous notice in Stage 5; otherwise negligible.

NOTE.—A Landing Ground for aircraft could be made, with considerable labour, in Stage 5.

INTRODUCTORY STAGE D-44.

MAYMYO—YWATHIT (NAUNG-THA-KAW).

10m. 4f.

Leaves cantonments E. along metalled road to Whence becomes an unmetalled cart road, roughly bridged—practically impassable after rains except to Pack Tpt. Passing through tree and scrub jungle to Whence country becomes more open.

3m. 4m. 4f.

Passes MOGYOBYIT.

8m.

Passes SETALON.

10m.

reaches YWATHIT (NAUNG-THA-KAW) 150h., iron ore mines.

C.G.—(a) For 3 Bns.—400 yds. S.W. of *kyauing* (Dec.—May).

(b) For 2 Bns. in *kyauing* compound and space 100 yds. N. of it.

(c) For 400 men in *kyauing* and *zayats*.

(d) For 1,000 Mtd. Tps. near water supply.

Water—Unlimited from stream 400 yds. S.W., of *kyauing*.

Fuel—Unlimited from jungle.

Fodder—Unlimited—grass grazing.

Supplies—Nil.

NOTE.—At YWATHIT this track crosses the border into N.S.S. and becomes Route D-44. At MAYMYO this route joins H-1.

ROUTE D-44—contd.

Stage 1.

YWATHIT—HSI-HSONG.

11m. 4f.

A good country cart road, fit for light M.T. in fair weather. Difficult in rains. Passes over undulating country; open until descent into lower plain, thence dense jungle.

1m.

Passes GWEGON.

3m. 4f.

Passes ENGU.

4m.

Passes PEININGYI.

9m. 4f.

Passes NAMPANGMAWN.

10m. 4f.

Passes PAHAK.

11m. 4f.

reaches HSI-HSONG (50h).

C.G.—For (a) 2 Bns. in paddy fields, just before entering village (Dec.—May).

(b) 1 Bn. near *kyaung*.

(c) 100 men in *kyaung* and *zayats*.

Water—Unlimited from streams N. and S. of village.

Fuel—Unlimited from jungle.

Fodder—Unlimited grass and grazing.

Supplies—Nil.

Stage 2.

HSI-HSONG—INMA.

9m.

Cart road, fit for light M.T. in fair weather, bad and swampy in places—passes through cultivated area. A very populous area and covered with tracks leading to *taungya*. After crossing bridge at northern limit of HSI-HSONG, track runs W. for 50 yds. then branches E, for 400 yds, then branches W. Numerous villages are passed and water is plentiful throughout the plain. Tps. could operate off the road. reaches INMA (at S. extremity of plain).

9m.

20m. 4f.

C.G.—Unlimited near *kyaung*.

Water—Unlimited.

Fuel—Unlimited.

Fodder—Unlimited.

Supplies—Nil.

Stage 3.

INMA—KALAGWE.

10m.

A good road, fit for M.T. in fair weather. Passes through open country for first half; thence thicker country.

Crosses stream by bridge immediately S. of conspicuous *kyaung* near village of HO-KO. Proceeds N. from northern end of village.

4m. 4f.

Passes pagoda near large Banyan tree on top of a rise, and a spring with water for 200 men 300 yards S. of pagoda—also *zayat* for 50 men, and village HKYAWNGHSA.

approx.

7m.

Joins P.W.D. metalled road HSUM HSAI—KALAGWE (Route D-45A).

10m.

KALAGWE (50h.—12 Chinese).

30m. 4f.

C.G.—(a) For 1 Bn. scattered round *kyaung* and pagoda.

(b) For 1 Bn. E. and S. of *kyaung* (with clearing).

(c) For 200 men in *kyaung* and *zayats*.

(d) For 3 Bns. in paddy fields N. of village (Dec.—May).

ROUTE D-44—contd.

Water—Unlimited from stream and spring.

Fuel—Unlimited from jungle.

Fodder—Unlimited—grass and grazing.

Supplies—Nil.

Stage 4.**KALAGWE—MAN KYIN.**

16m.

3m.

4m.

A good cart road as far as which is the limit to wheeled Tpt.

Thence becomes good mule track to whence it becomes much overgrown. Such bridges as exist are in a bad state of disrepair. (Here there is a difficult muleteers' short-cut; this is best avoided.) Through dense mountainous country.

7m.

An ascent begins through waterless country and ends at approximately.

9m.

300 yds. from here track E. to Shan village.

11m.

Track bifurcates (a) W. only used by elephants.

(b) Muleteers' short-cut (must be used).

14m. 4f.

Short-cut joins main track again (which is heavily overgrown but can be recognized at turning point).

NOTE.—It might be advisable to continue Stage 4 to 3m. in Stage 5, where—

C.G.—For 3 Bns.

Water—Unlimited.

Fuel—Unlimited.

Grass—Unlimited.

16m.

MAN KYIN (PAZI—46h).

46m. 4f.

C.G.—(a) For 1 Bn. (scattered) along spur leading up to village.

(b) for 1 Bn. on spur N. and W. of *kyaung* with clearing.

Water—(a) For 600 men 1m. before entering village from small stream.

(b) For 600 men from stream N. of village (200 yds.).

The supply would probably be half this from Feb.—May, unless rain fell.

Fuel—Unlimited from jungle.

Fodder—Unlimited.

Supplies—Nil.

Stage 5.**MAN KYIN—MONG LONG.**

17m.

A well graded mule track to $8\frac{1}{2}$ miles; very rough and steep to 10 miles; thence again a good mule track to MONG LONG.

Passes through dense mountainous country. Tps. unable to operate off the road.

10m.

Passes PEINPI.

11m. 4f.

C.G.—For 3 Bns. in paddy fields; water from stream.

13m.

Passes NAYAWK—stream and *C.G.* for 2 Bdes.

14m.

Passes PANGPAU—unlimited *C.G.*

14m. 6f.

Crosses NAM KU (60 ft. \times 2 ft.—stony bed; easy approaches—unfordable in rains).

15m.

Passes WENGKAU. Thence by metalled motor road to MONG LONG. Crossing stream just before entering village (60 ft. \times 2 $\frac{1}{2}$ ft.—stony bed—difficult approaches—unfordable in rains).

ROUTE D-44—*contd.*

63m. 4f.

MONG LONG (d.b.—200h.—pop. 650 ; mostly Palaung ; H.Q. of a subdivision).

C.G.(a)—Unlimited in paddy fields S.W.—Dec.—May.

(b)—For 2 Bns. (scattered) near i.b. and *kyaungs*.

(c)—For 400 men in *kyaungs* and *zayats*.

(d)—For 3 Bns. just N. of village.

Water—Unlimited from stream.

Fuel—Unlimited from jungle.

Fodder—Unlimited from paddy plains and hills N. of village.

Supplies—2,000 baskets of paddy obtainable with notice. 5th day bazaar.

At MONG LONG this route joins H-140 and the two extra stages (MONG LONG to MOGOK) coincide with the first two stages of Route H-140.

Extra stages—Route D-44.

MONG LONG—MOGOK.

Length :—22 m. 2f.

2 Stages

Epitome—

An all-weather motor road passing through dense jungle and mountainous country. This road is only just passable in the rains. Hold-ups are frequent and generally of several days duration. The principal cause of the interruption on this section is land slides, the nature of the road making it particularly liable to this form of hold-up. There are innumerable hairpin bends, many of which a lorry or even a large car cannot take on one lock, and reversing is necessary. The surface is poor, and the road is covered with a layer of fine dust which becomes very greasy after slight rain, and on the steeper sections skid chains are essential for lorries and desirable for cars. Extreme care on corners is necessary to prevent slipping over the unprotected edge, with, in many parts a drop of several hundred feet.

Defiles—

As the road is in hill-section throughout, there are defiles every few hundred yards, almost all covered with thick scrub jungle where ambush would be easy.

Harbours.—

There are no harbours as it is not possible to draw vehicles off the road into cover. A slight amount of dispersion and some cover is obtainable at MONG LONG, but complete concealment of a convoy of any size would be almost impossible.

Water is very plentiful.

This road was in a very bad condition at the time of evacuation.

ROUTE D-44—contd.**MONG LONG—KYAUKTALON.****Stage 1.**

10m. 6f.

3m. 7f.

4m. 4f.

7m.

9m. 4f.

10m. 6f.

Crosses NAM PAI by a 40' iron girder bridge.
30' wooden girder bridge.

LEGYI.

Crosses stream (unfordable in rains) by 30' iron girder bridge.

KYAUKTALON (i.b., p.s., 20h.).

C.G.—(a) For 1 Bde. in paddy fields.

(b)—For 2 coys. on ridge where p.s. is built.

Water—Unlimited.

Fodder—Grazing plentiful; grass scarce.

Supplies—Nil.

Stage 2.

11m. 4f.

9m.

22m. 2f.

KYAUKTALON—MOGOK.

All weather motor road passing through dense mountainous country.

Country becomes more open.

MOGOK (see Route H-139, Stage 6).

ROUTE D-44A.**ROADS AND PATHS IN THE AREA BETWEEN MAYMYO AND NAWNGHKIO.**

The area lying between the boundary separating HSIPAW State and BURMA on the W. and the road from HSUM HSAI railway station to KALAGWE on the E. is a network of roads and paths. A guide is necessary even for the shortest journeys.

The principal landmark in this area is TAUNGTALON Hill. This hill lies in HSIPAW State about two miles E. of the boundary; it is 4,064 feet high and can be seen from a great distance from all directions in this area.

The sowing is very good except after heavy rain; the rainfall is only 60". From Nov. to the end of April there is very little rain.

Camping Grounds.—Throughout this area near all the villages there are large areas suitable for camping grounds generally with cover available.

Water—Plentiful.*Fuel*—Plentiful.*Grazing* is fairly good.

Supplies—There are large herds of cattle kept by Gurkhas at most of the villages and milk is generally obtainable in fairly large quantities. A few goats, pigs and poultry. The SHAN inhabitants of the country are *taungya* cutters and the principal crops grown are rice, groundnuts, sesamum and ginger.

Some details about seven roads in the neighbourhood (Routes D-44 B to D-44H) and other tracks are available and are here given :—

ROUTE D-44B.

MAYMYO—THONZE (HSUM HSAI).

NOTE.—The place on the ON-MA-THI—KALAGWE road about 2 miles N.W. of ON-MA-THI shown on the maps as "HSUM HSAI" is no longer known by the name HSUM HSAI, but as THONZE. When local inhabitants speak of "HSUM HSAI" they mean HSUM HSAI railway station and the adjacent village.

Distance—29m. (approx.)

3 Stages.

Epitome—

A dry weather motor road; unsurfaced—jeepable in almost all weathers, motorable with difficulty in fair weather.

Stage 1.

MAYMYO—CHAUNGWE.

13m.

Leave MAYMYO through cantonments, past the rifle range and follow the road to MOGYOBYIT for $\frac{1}{2}$ mile; then turn N.W. and then N. along a road cut through the hills in 1941. The road continues N. past paddy fields and a water mill. Crosses HWELEIN stream by a good wooden bridge and keeping NYAUNGON village on the right, crosses the SHWE-LEIK-U stream by a strong wooden bridge. This stream forms the boundary between the Northern SHAN STATES (HSIPAW STATE) and MANDALAY district.

9m.

PONGCHENG village (now a GURKHA krall).

10m.

Follow newly-cut road in a N.E. direction to TAUNGTALON village, round the S.E. side of TAUNGTALON hill and cross MAN-NA stream by a wooden bridge.

11m. 4f.

12m.

13m.

Leave MAN-NA village on right and through a valley towards CHAUNGWE village at N. end of CHAUNGWE Coffee Estate.

Stage 2.

CHAUNGWE—HSI-HSONG.

9m.

From CHAUNGWE to HSI-HSONG several routes are available. The best route in the dry weather goes on to YE MAUNG, through the swamps to (HKAWNGKYI) (CHAUNGGY) and on to HSI-HSONG but the best all-weather road crosses a stream $\frac{1}{2}$ mile E. of CHAUNGWE village, but

9m.

22m.

the bridge has been demolished. The best existing bridge is W. of CHAUNGWE village thence *via* KYAUKME village to TAMBU and thence to HSI-HSONG.

Stage 3.

HSI-HSONG—THONZE (HSUM HSAI).

7m.

The road runs due E. to THONZE and is motorable most of the year, but it becomes a good deal cut up during the rains.

2m. 6f.

PA-LAUNGKYAUNG.

4m. 2f.

THONZE (HSUM HSAI) Here this route joins Route D-45A.

7m.

29m. 0f

ROUTE D-44C.

MAYMYO—CHAUNGWE via YWATHIT (NAUNG-THA-KAW).

Distance 17m. 6f. (approx.)

2 Stages.

Epitome—

An all-weather cart road running E. of the preceding Route (D-44B). This route is longer and is very much cut up by cart traffic in the neighbourhood of NAUNG-THA-KAW (iron ore mines) but is probably jeepable all the year except after heavy rain. There is dense growth of lantana in places. Malarious in the rains.

Stage 1.

MAYMYO—YWATHIT (NAUNG-THA-KAW).

10m.

See Route D-44.

Stage 2.

YWATHIT (NAUNG-THA-KAW)—CHAUNGWE.

7m. 6f.

The cart road continues in a N.W. direction.

4m.

TAUNG-TALON village.

6m.

MAN-NA village.

7m. 6f.

CHAUNGWE village (coffee plantation and lime kiln).

17m. 6f.*C.G.*—A large area ; good cover.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Fair grazing.*Supplies*—Large herds of cattle at most villages en route.

ROUTE D-44D.

WETWUN R. S.—CHAUNGWE..

Distance 13m. 6f. (approx.)

1 Stage.

Epitome—

WETWUN is a long straggling village with houses on both sides of the main "BURMA ROAD" (Route H-1). The railway station is at the N. end of the village. There are lime kilns near the station with steep limestone cliffs to the W. There is a Power House at WETWUN which supplies MAYMYO with electricity. The boundary between BURMA and the Northern SHAN States runs through the N. end of the village. The road runs W. from the railway station to YWATHIT (NAUNG-THA-KAW), to the iron ore mines situated N. of this village and on to CHAUNGWE. An alternative road runs through BAW-HLAING and KYAUK-TAW to TAUNG-TALON. This road is jeepable except after heavy rain. From various points in WETWUN village, roads take off from the main road and join this route or run independently to SE-TA-LON and YWATHIT.

ROUTE D-44D—contd.**WETWUN.***C.G.*—Ample area ; fairly good cover.*Water*—Plentiful.*Fuel*—Plentiful.*Grazing*—Fairly good.*Supplies*—Cattle, some goats. Rice mills.**Stage 1.****WETWUN—CHAUNGWE.**

13m. 6f.

4m.

6m.

13m. 6f.

SE-TA-LON.**YWATHIT (NAUNG-THA-KAW).****CHAUNGWE.**

From SE-TA-LON a cart road runs N. through KYU-IN, PAN-NYO-YE and ZIBYU-BIN to HSI-HSONG.

ROUTE D-44E.**SINLANZU R. S.—CHAUNGWE.**

Distance 10m. 2f. (approx.)

1 Stage.

Epitome—

An unmetalled cart road, jeepable all the year, runs N.W. from SINLANZU railway station to CHAUNGWE on the SHAN States—BURMA border. At SINLANZU there are lime kilns. There are some deep streams to cross but if the bridges are broken down, a ford can generally be found. SINLANZU railway station is about one mile W. of the main "BURMA ROAD." (Route D-1.)

Stage 1.**SINLANZU—CHAUNGWE.**

10m. 2f.

1m. 5f.

3m. 1f.

4m. 7f.

6m.

7m. 2f.

8m. 4f.

10m. 2f.

10m. 2f.

Road runs N.W. through undulating country, open except where there are large areas covered with lantana.

BWETTEIK stream—crossing difficult if bridge broken.

KHE-GYL.

PAN-NYO-YE.

NYAUNG-BIN-THA.

THAYETKON. The stream W. of this village is fordable a few yards above the bridge if the bridge is broken.

MAN-NA.

CHAUNGWE village. (Coffee plantation and lime kiln.)*C.G.*—A large area—good cover.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Fair grazing.*Supplies*—Large herds of cattle at most villages en route.

ROUTE D-44F.

BAM-BWE—ON-MA-THI via HSUM HSAI r.s.

Length :—8m. 4f. (approx.)

1 Stage.

Epitome—

A surfaced all-weather motor road. This semi-circular route runs N.W. and N. to join route D-45A at a point about 4f. W. of HSUM HSAI railway station. It leaves BAM-BWE (not PAN-PWE as shewn on the map) at 6m. 3f. on Route D-1 and runs for nearly all its length through the tung plantations belonging to TUNG OIL Estates Ltd.; slightly undulating the whole way. Except in December, January and February when the trees are almost leafless, the plantations afford excellent cover and are everywhere intersected by motorable or jeepable tracks. They cover about 3,500 acres in several isolated blocks.

Stage 1.

BAM-BWE—ON-MA-THI.

8m. 4f.

1m.

2m. 4f.

3m.

Mill of TUNG OIL Estates Ltd.

Level crossing : 441m. 3f. RANGOON—LASHIO railway, GANGAW village.

The route continues through plantations finally leaving the estate of TUNG OIL Estate Ltd. about one mile before its junction with D-45A.

6m.

Here this route coincides with Route D-45A and turns S.E. to re-join Route D-1 at ON-MA-THI.

6m. 4f.

8m. 4f.

Level crossing 300 yards North of HSUM HSAI railway station.

C.G.—Ample; swampy in rains, fairly good cover.

Water—Plentiful.

Fuel—Plentiful.

Grazing—Plentiful.

Supplies—Rice plentiful from several rice-mills in the neighbourhood. Large herds of cattle. Milk obtainable. Very malarious in the rains.

ROUTE D-44G.

BAM-BWE—NYAUNG-DAUK-YWAMA via PA-HE.

Distance 11m. (approx.)

2 Stages.

Epitome—

An unsurfaced semi-circular road running E. from Route D-1 ("The BURMA ROAD") at BAM-BWE (not PAN-PWE as shewn on the map) to PA-HE—(shewn on the map as PAN-HE.). The route then turns S.W. to the large village of NYAUNG-DAUK-YWAMA. From BAM-BWE to PA-HE the road is motorable most of the year though much cut up by timber carts from the sawmill at PA-HE.

ROUTE D-44G—contd.**Stage 1.****BAM-BWE—PA-HE.**

5m. 2f.

The route leaves BAM-BWE, where there is a large 5th day bazaar, and runs through undulating country for the most part under cultivation and fairly open for about five miles when it enters the TUNG plantations of TUNG OIL Estates Ltd. through which it runs for about 10 furlongs. These plantations are now not situated as shewn on the one inch map; there are now no plantations E. of the HPAWNG-AW stream.

2m. 3f.

KYU-IN.

There are lime kilns here and good cover.

4m. 3f.

IN-WIN.

E. of this village the plantations are entered, affording excellent cover, except in December, January and February, covering an area of about 800 acres. They are intersected with tracks, mostly jeepable.

5m. 2f.

On leaving the plantations the HPAWNG-AW stream is crossed by a permanent stone bridge to PA-HE. On the E. side of this bridge there is a large sawmill worked by water power.

Stage 2.**PA-HE—NYAUNG-DAUK-YWAMA.**5m. 6f.
11m.

The cart road after re-crossing the bridge runs in a S.W. direction through forest and cultivated land to NYAUNG-DAUK-YWAMA, a large village situated in the open on a plateau.

C.G.—Ample space with good cover obtainable.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Fairly good grazing.

Supplies—Large herds of cattle in the neighbourhood.

From NYAUNG-DAUK-YWAMA a good cart road, jeepable, runs W. to WETWUN on Route D-1 (6 miles).

From NYAUNG-DAUK-YWAMA a cart road runs S.E. for about 3 miles, deteriorating into a rough pack track to some small sawmills on the HPAWNG-AW stream. This track crosses the stream and runs to PANGPOK and ME-HAWNG and eventually into LAWK SAWK State, Southern SHAN States. (Route D-48A.)

ROUTE D-44H.**HSUM HSAI railway station—CHAUNGWE.**

Distance—13m. 4f. (approx.) 2 Stages. General Direction W.

Epitome—

From HSUM HSAI station this route coincides with Route D-45A for the first four furlongs; it then branches L. and runs through the plantations of TUNG OIL Estates Ltd. for about 10 furlongs (coinciding with Route D-44F). It then branches R. continuing for about 1½ miles through the

ROUTE D-44H—contd.

plantations and after leaving these plantations runs through swamp and cultivation to ZIBYUBIN (HSI-BYU-PENG on the map). As far as ZIBYUBIN the road is motorable, but beyond this village the road is probably not even jeepable. The road is fairly good, but swampy in places and the streams are not bridged. Cover is good throughout. Large areas are available as camping grounds, water and fuel are plentiful, and grazing is very good. There are no supplies obtainable other than large herds of cattle and some milk.

Stage 1.**HSUM HSAI railway station—ZIBYUBIN.**

7m. 4f.

An all-weather motor road, good except near ZIBYUBIN. Numerous side tracks run through the plantations; these tracks are all jeepable.

7m. 4f.

ZIBYUBIN.

Stage 2.**ZIBYUBIN—CHAUNGWE.**

6m.

Slopes very steep in some places. The road crosses small swamps. With very little work, this could be made into a motor road.

1m.

ZALLI.

3m.

THAYETKON.

If the bridge is broken, the stream W. of THAYETKON—YEMAUNG is fordable a few yards above the bridge.

4m.

MAN-NA.

6m.

CHAUNGWE. Coffee Plantation. Lime kiln.

13m. 4f.

From CHAUNGWE a fairly good cart track, probably jeepable, runs N. through KYAUKME to join Route D-45A. near HKAI-MAWN.

Tracks run W. from all villages in the neighbourhood of CHAUNGWE i.e. from PONGCHENG to MEDAW, from NAWNGPENG and from KYAUKME towards the tributaries which run into the IRRAWADDY in the neighbourhood of MADAYA. No details are available, but it is improbable that any of these tracks is jeepable; some of the slopes are very steep—they are all-weather pack tracks.

A well-known opium smugglers' track runs from KYAUKME to PONGCHENG and thence S.W. to KYUNDAING (a large village) and thence to MAYMYO or MANDALAY. Smugglers are said to make the journey from PONGCHENG to MANDALAY in two days.

The country N. of THONZE (HSUM HSAI) as far N. as PANGTI (D-45) is fairly open, rolling downs, heavily grazed, interspersed with swamps in which paddy is grown. There are large areas of dry cultivation, chiefly ground-nuts and sessamum. All the villages are connected by roads; in the dry weather these roads are all hard (red clay soil) and are probably all jeepable, but in the rains the mud is very deep and the roads are only passable by carts.

N. of PANGTI the country becomes more mountainous. Though all villages are connected by roads it is probable that the roads here are only passable by carts or pack transport in the rains.

.ROUTE D-45.**KALAGWE—NAWNGHKIO.**

Length :—34m. 4f.

3 Stages.

Epitome—

A good country cart road throughout. Passes through undulating country of light grass and old hill cultivation. Red clay soil makes it very heavy in rains, but the road is hard in the fair weather and probably jeepable throughout its length except after heavy rain.

C.G.—For 2 Bns. throughout.*Water*—Plentiful.*Fuel*—Unlimited.*Fodder*—Unlimited grass and grazing.*Supplies*—Large herds of cattle.

NOTE.—At KALAGWE this route joins Routes D-43, 44 and 45A
At NAWNGHKIO this route joins Routes D-1 and D-48A.

Stage 1.**KALAGWE—HKAUNGKA.**

10m.

A good cart road. Passes through undulating scrub country.

2f.

Cart road R. to HOPONG.

5m.

Passes HKYAWNGHSA (Shan, 10h.), R. 2f. from road.

5m. 4f.

Cart road R. to HKYAWNGHSA.

10m.

HKAUNGKA. (Shan, 10h.).

C.G.—For 2 Bns. around village (with clearing).*Water*—150 yds. N. of village, down slope.*Fuel*—Plentiful.*Water*—Plentiful.*Supplies*—Cattle.**Stage 2.****HKAUNGKA—PANGTI.**

13m.

Road and country similar to previous stage.

 $\frac{1}{2}$ f.

Cart road R. to LAMAGYI (Shan).

7m.

Passes KIO-ANG (GUING), (Shan).

7m. 2f.

Crosses NAM HSAILENG (54 ft. wide) by wooden bridge.

7m. 3f.

Road branches L. to PANGTI (R. a track to THONZE).

9m.

Passes HONAUNG (Shan, 15h.).

12m.

Passes SABEGAUNG W. (Shan, 7h.).

12m. 4f.

Passes SABEGAUNG E. (Shan, 20h.).

12m. 7f.

Passes a spring (village water supply).

NOTE.—There is a shorter route which saves 5m. but is unfit for Pack Tpt. E.S.E. from HKAUNGKA. The crossing of the NAM HSAILENG is difficult.

23m.

reaches **PANGTI** (Shan, 16h.).*C.G.*—For 2 Bns. round *kyaung* and *zayat* (with clearing).*Water*—From spring 1f. W. of *kyaung*.*Fuel*—Plentiful.*Fodder*—Unlimited.*Supplies*—Cattle.

ROUTE D-45—*contd.*

Stage 3.

PANGTI—NAWNGHKIO.

- 11m. 4f. Road and country similar to previous stages.
 3m. 3f. Cart road L. to LEPHAN.
 5m. 2f. PANLIN Camp (Timber draggers); thence road becomes rough owing to dragging and descends crossing four small streams, no obstacle, to
 7m. Crosses HKAIMON *chaung* (fordable).
 7m. 4f. Passes HKAIMON (Shan, 10h.). Thence road improves ascending to
 8m. 6f. Cart road L. to LONG YOM.
 9m. 2f. Crosses MANDALAY-LASHIO Railway.
 9m. 6f. Strikes MANDALAY-LASHIO main metalled road. (Route D-1).
 34m. 4f. NAWNGKHKIO (i.b., p.t.o., r.s.) H.Q. of township in the HSUM HSAI sub-division of HSIPAW State. 1m. by metalled road from r.s.
C.G.—(a) For 1 Bn. cramped near i.b.
 (b) For 1 Bn. near p.s.
Water—Unlimited from spring at i.b.
Fuel—Unlimited from jungle.
Fodder—Unlimited near village.
Supplies—5th day bazaar. Cattle plentiful.
 A long and difficult route. The ordinary way would be by Route D-45A which is a surfaced P.W.D. road from KALAGWE to ONMATHI *via* HSUM HSAI railway station and thence by route D-1 to NAWNGHKIO, (D-1 Stage 2).

ROUTE D-45A.

ONMATHI—KALAGWE.

Length :—30m. (approx.)

3 Stages.

Epitome—

A P.W.D. metalled road suitable for M.T. throughout the year. This road leaves the "BURMA ROAD" (Route D-1 Stage 1) at ONMATHI and runs in a northerly direction to KALAGWE where the road, as a metalled road, ends.

Stage 1.

ONMATHI—HSUM HSAI.

7m.

The i.b. at ONMATHI has been pulled down and re-erected at BANBWE 3m. further S. on Route D-1.

2m.

Level crossing. HSUM HSAI (r.s.).

2m. 4f.

A metalled road (D-44F) leaves L. to TUNG OIL ESTATES and rejoins Route D-1 at BANBWE.

7m.

HSUM HSAI, commonly known as THONZE, H.Q. of Township 5th day bazaar.

Stage 2.**HSUM HSAI—HKAI-MAWN.**

12m.

Crosses several streams with wooden bridges in bad repair.

12m.

HKAI—MAWN.

19m.

Stage 3.**HKAI-MAWN—KALAGWE.**

11m.

0m. 4f.

8m.

11m.

30m.

Boundary between HSIPAW State and MONG LONG.

Route D-44 joins on L.

KALAGWE (50h.—12 Chinese).

C.G.—(a) For 1 Bn. scattered round *kyaung* and pagoda.

(b) For 1 Bn. E. and S. of *kyaung* (with clearing).

(c) For 200 men in *kyaung* and *zayats*.

(d) For 3 Bns. in paddy fields N. of village (Dec.-May).

Water—Unlimited.

Fuel—Unlimited.

Fodder—Unlimited.

Supplies—Nil.

ROUTE D-46.**PYAUNGGAUNG or KYAUKME TO MONG LONG.**

Length :—56m.

4 Stages.

Epitome—

The road is metalled and fit for MT. throughout the year. Passes through thick scrub country in Stage 1. Remainder dense mountainous country with stretches of tea cultivation where Tps. could operate off the road. Soil red clay, very heavy going in rains. A dangerous road.

C.Gs.—For at least 1 Bn. at each stage.

Water—Unlimited.

Fuel—Unlimited.

Fodder—Grass scarce. Grazing good in all stages.

Supplies—Nil, except in 4th stage where paddy can be obtained in some quantity from MONG LONG.

The road is very frequently blocked by landslides, generally of several days' duration.

NOTE.—At PYAUNGGAUNG this route joins Route D-1.

At MONG LONG this route joins Routes D-44, 47 and H-140.

Stage 1.**PYAUNGGAUNG—LOI-KONG.**

17m.

6m. 4f.

Metalled road. Fit for light M.T. throughout the year.

NAMSAW. Here a metalled road connecting with KYAUKME and with routes D-42 and D-48 comes in on the R. (NAMSAW to KYAUKME 6m.).

7m. 4f.

Weak wooden bridge, 50 ft. span.

ROUTE D-46—contd.

- 13m.** PANGTO. The stage can be shortened considerably as at PANGTO there is :—
C.G.—For 1 Bn. S. of village.
Water—Sufficient for 1 Bn.
Fuel—Plentiful.
Fodder—Scarce.
Supplies—Nil.
- 13m. 4f.** Begins 1:18 ascent along well-aligned and metalled road-formation 16-18 ft. wide.
- 17m.** **LOI-KONG** (20h.—i.b.) Road R. to KYAUKME, 17m. 6f. distant.
C.G.—(a) For 2 Coys. on ridge near i.b.
 (b) For 2 Coys. between spurs on which village is built.
Water—Sufficient for 1 Bn. from springs.
Fuel—Unlimited.
Fodder—Grass scarce, Grazing in tea gardens for animals of 1 Bn.
Supplies—Nil.

Stage 2.**LOI-KONG—PANGPYET.**

- 9m.** Good unmetalled road. Fit for light M.T. in dry season.
- At**
- 6m.** reaches PANGHSAP-YE. Road ascends through mountainous country cleared for tea gardens; Tps. could operate off the road.
- 9m.** **PANGPYET** (No village—i.b.).
C.G.—For 1 Bn. on ridge near i.b.
Water—Sufficient for 1 Bn. from stream, S.E. of i.b.
Fuel—Unlimited.
Fodder—Sufficient for 1 Bn.
Supplies—Nil.
- 26m.**

Stage 3.**PANGPYET—KAN KANG.**

- 15m.** Unmetalled road fit for light M. T. in dry season. Passes through dense mountainous country. At
- 8m. 2f.** Road R. to TAWHSANG 6m. (on Route D-47).
 Passes PANGHSANG, here—
C.G.—For 1 Bn.
Water—Sufficient.
Fuel—Unlimited.
Fodder—Scarce.
Supplies—Nil.
- thence road descends to
- 15m.** **KAN KANG** (ib.—30h.).
- 41m.** *C.G.*—(a) Unlimited in paddy fields.
 (b) For 2 Coys. on open ground S.E. of i.b.
Water—Unlimited from stream.
Fuel—Unlimited.
Fodder—Grass scarce. Grazing limited.
Supplies—Nil (small amount of paddy).

Route D-46—concl'd.

Stage 4.

KAN KANG—MONG LONG.

14m. 2f.

Unmetalled road. Fit for light M.T. in dry weather. Bridged throughout. Passes through dense mountainous country to where starts descending.

5m.

9m.

Passes LOIH-KAM

14m. 2f.

reaches MONG LONG. (MAING LONG) (i.b. 200h., H.Q. of subdivision; population 650).

55m. 2f.

C.G.—(a) (Des.—May) Unlimited in paddy fields S.W. of village.

(b) For 3 Bns. N. of bazaar.

(c) For 2 Bns. scattered near i.b. and *kyaung*.

(d) For 400 men in *kyaungs* and *zayats*.

Water—Unlimited from stream.

Fuel—Unlimited.

Fodder—Unlimited N. of village.

Supplies—2,000 bkts. paddy obtainable 5th day bazaar.

This road continues to MOGOK (D-44)—a difficult road and to BERNARDMYO (H-140).

ROUTE D-47.

MONG LONG—LASHIO via NAMHSAN.

Length :—130m. 4f.

12 Stages.

Epitome—

A good mule track in dry weather in Stages 1—4, Stages 4 to 7 good metalled road, fit for light M.T. throughout the year. In some places road is very narrow with sharp corners—speed 10 m.p.h. only possible. Stages 7 to 12 road again becomes a mule track. Passes through dense, mountainous country.

C.Gs.—For 1 Bn. throughout.

Water—Sufficient for 1 Bn. at least.

Fuel—Unlimited from jungle, except in Stages 8, 9, 10 and 11 where scarce.

Fodder—Grass and grazing for 1 Bn. (if collected) except Stages 7, 8, 9 and 11 where scarce.

Supplies—Negligible except Stages 1 and 4 where large quantities of paddy can be obtained.

NOTE.—At MONG LONG this route joins Routes D-44 and D-46.

At LASHIO this route joins Routes D-1, 3 and 7.

At MONGNGAW this route joins Route D-48.

Stage 1.

MONG LONG—MANG-KUNG.

14m.

3m.

A cart road as far as where it becomes a good mule track; thence passes through dense mountainous country.

4m.

Passes PANGHTAM.

7m. 4f.

Passes LOI-ANG.

11m.

Country becomes open paddy fields.

ROUTE D-47—*contd.*

14m.

MANG-KUNG. (40h.).*C.G.*—(a) (Dec.—May) Unlimited in paddy fields.

(b) For 1 Bn. 200 yds. S.E. of village.

Water—Unlimited from 2 streams and wells.*Fuel*—Unlimited from jungle.*Supplies*—300 baskets paddy available. More could be obtained with notice. 5th day bazaar.

Stage 2.

MANG-KUNG—TAWHSANG.

7m.

Good mule track passing through level open ground.

1m. 4f.

Passes NA-MAWTAWNG.

3m. 4f.

Passes HO-ONG whence track climbs through dense mountainous country.

21m.

Reaches **TAWHSANG** (50h.).*C.G.*—(a) For 1 Bn. on spur 100 yds. N. of *kyaung*.

(b) For 1 Bn. scattered on spur S. of village.

(c) For 150 men in *kyaung* and *zayat*.*Water*—For 200 men from 2 springs.*Fuel*—Unlimited from jungle.*Fodder*—Grass unlimited if collected. Grazing for animals of 2 Bns. near village.*Supplies*—Nil.

Stage 3.

TAWHSANG—PANGTONG.

9m.

Good mule track. Passes through cleared mountainous country.

1m.

Passes MAUNGHPALA.

2m. 4f.

Passes BAMAME.

3m.

Country becomes dense and Tps. unable to operate off road.

6m.

Passes MAN PANGHU.

7m. 2f.

Passes PANGKHAM.

30m.

Reaches **PANGTONG** (39h. divides into two villages S. and N. PANGTONG. S. is referred to below).*C.G.*—(a) For 100 men in clearing just before reaching *kyaung*.(b) For 300 men on cleared spur 300 yds. N.E. of *kyaung*.(c) For 150 men in *kyaung* and *zayat*.

(d) For 200 men in PANGTONG N.

Water—Sufficient for 1 Bn. from well and small stream 100 yds. N.E. of *kyaung*.*Fuel*—Unlimited from jungle.*Fodder*—Grass, bamboo leaves unlimited in jungle. Grazing for 1 Coy. near village.*Supplies*—Nil.

Stage 4.

PANGTONG—MONGNGAW.

13m. 4f.

Good mule track. Very steep for first 4m. Passes through dense country.

4m. 4f.

Passes HONWO—here hills have been cleared.

ROUTE D-47—contd.

- 7m. Passes HKUMMAN KAU whence country becomes dense. Again, at
- 10m. 4f. Passes AUKGYI whence country becomes clear again.
- 11m. Crosses NAMHSIM by ford—(60 ft. wide × 16 ft. deep—stony bottom—unfordable in rains) can be crossed by bridges 1m. S. of AUKGYI and 1½m. N. of MONGNGAW.
- 13m. 4f. **MONGNGAW** (i.b. 1m. distant; 55h.).
- 43m. 4f. C.G.—(a) (Dec.—May) For 2 Bns. in fields near i.b.
(b) A dirty ground for 1 Bn. between road and river at 9m. 7f.
(c) For 100 men in i.b. compound.
Water—Unlimited from river.
Fuel—Unlimited from jungle.
Fodder—Grazing and grass for animals of 2 Bns.
Supplies—Negligible. Large amount of paddy could be collected from villages between 6m. and 9m.

Stage 5.

MONGNGAW—HAI HKAM.

- 8m. 4f. Metalled road. Fit for light M.T. throughout the year. Corners very sharp and dangerous; road narrow in places. From MONG-NGAW to NAMHSAN this route coincides with route D-48.
- 52m. **HAI HKAM** (i.b.—6h.).
C.G.—(a) For 1 Bde. in fields N. of village.
(b) For 200 men in i.b. compound.
Water—(a) Unlimited from stream passing through C.G.
(b) For 400 men from spring 200 yds. E. and W. of d.b.
Fuel—Unlimited from jungle.
Fodder—Grass unlimited in neighbourhood.
Supplies—Nil.

Stage 6.

HAI HKAM—KA YA.

- 10m. Road the same as in Stage 5.
- 62m. **KA-YA** (70h., scattered on spurs, i.b.).
C.G.—(a) For 400 men cleared space on ridge near i.b. and 100 more on same ridge with clearing.
(b) 200 men on village spurs.
Water—Unlimited from springs at 8m. 4f. For 200 men from spring 300 yds. N. of i.b.
Fuel—Unlimited from jungle.
Fodder—Grass unlimited in neighbourhood; grazing scarce.
Supplies—Nil.

Stage 7.

KA-YA—NAMHSAN.

- 16m. Road and country as in Stage 5.
- 8m. The road passes through Tea Gardens.
- 78m. **NAMHSAN** (i.b.; p.o.; 400h.; pop. 2,300; dispensary, H.Q. of TAWNG PENG State and residence of SAWBWA).

ROUTE D-47—contd.

C.G.—(a) For 100 men near i.b. on entering Town from W.

(b) 200 men on ridge S. of State bungalow. E. of village.

(c) 100 men in Asst. Superintendent's compound, E. of village.

Water—Unlimited from hill streams.

Fuel—Unlimited from jungle.

Fodder—Scarce.

Supplies—Small quantities can be obtained from village shops.

Stage 8.

NAMHSAN—NAMLIN.

- 8m. 4f. Road changes to mule track, very steep in places.
 4f. Road S. to HSIPAW.
 1m. 4f. LOIHKAM (Palaung, 10h.). From here track descends very steeply to
 3m. Crosses NAM KWAI by ford (45 ft. \times 1 ft.) also by wooden bridge (45 ft. long—6 ft. wide). There is a C.G. for 1 Bn. on each side of stream near bridge. Road follows i.b. for 200 yds. crosses small stream (15 ft. \times 1 ft.) by a foot bridge (30 ft. long—6 ft. wide). Thence ascends steeply to
 5m. Passes MANLOI (2 villages, $\frac{1}{2}$ mile apart; in all 60h.—Palaung); here—
 C.G.—For 150 men in *kyaung* and *zayats*. Good site for 600 men W. of village. Water available. Fuel, fodder and supplies scarce. Thence follows ridge to
 86m. 4f. NAMLIN (Palaung).
 C.G.—(a) For 75 men in *kyaung* and *zayats*.
 (b) Straggling camp for 600 men along road S.S.E. of village.
 Water—Available.
 Fuel—Scarce.
 Fodder—Scarce.
 Supplies—Nil.

Stage 9.

NAMLIN—TA-PANGTAWNG.

- 10m. Good mule track over undulating ground with some steep gradients. At
 3m. 4f. Passes MANGLANG (Palaung 38h.).
 4m. 6f. Passes small C.G. for 100 men. Water, fuel, fodder and supplies scarce.
 6m. 4f. Road descends to valley of MYITNGE by very steep gradient.
 7m. Passes Upper MAN-NGAI (2h.); here there is :—
 C.G.—For 50 men in *kyaung* and *zayat*.
 Water—Scarce.
 Fuel—Scarce.
 Fodder—Scarce.
 Supplies—Nil.

ROUTE D-47—*contd.*

8m. 4f. Passes Lower MAN-NGAI (25h.); here :—
C.G.—For 100 men—dirty.
 For 50 men—*kyaung* and *zayats*.
Water—Fairly plentiful.
Fuel—Scarce.
Fodder—Scarce.
Supplies—Nil.
 Thence very steep descent to r.b. of MYITNGE (NAMTU)
 river.

10m. Crosses NAM SEN by wooden bridge (30 ft. long, 6 ft.
 wide, 2 ft. deep), rough rocky bottom.

96m. 4f. **TA-PANGTAWNG** (10h.).
C.G.—For 500 men, 300 yds. W. of village.
Water—Plentiful.
Fuel—Scarce.
Fodder—Scarce.
Supplies—Nil.

Stage 10. **TA-PANGTAWNG—MANSAM.**

5m. Crosses MYITNGE by ferry consisting of a dug-out.
 (Will carry the loads of 16 mules.) River is 150 ft. wide—
 unfordable, rises 15 ft. in rains; 2 m.p.h. current. Ap-
 proaches good. Timber is plentiful for making rafts. On
 L. is *C.G.* for 50 men. *Water* plentiful.

1m. Road becomes very steep and narrow (all down-coming
 traffic should be stopped at top of hill. Movement very
 slow indeed).

1m. 4f. Passes MONGHWE (Shan, 5h.); here :—
C.G.—For 1,000 men in fields.
Water—Plentiful.
Supplies—Nil.

101m. 4f. Reaches **MAN SAM** (2 villages—Shan and Palaung—77h.
 in all).
C.G.—For 500 men near *kyaung*.
 For 100 men in bazaar, *kyaung* and *zayats*.
Water—Plentiful.
Fuel—Scarce.
Fodder—Grass fairly plentiful.
Supplies—Paddy, rice, and vegetables fairly plentiful.

Stage 11. **MAN SAM—NAH HSAI.**

10m. A metalled road. Fit for M.T. throughout the year.
 Passes through wooded, hilly country.

4f. Road right to HSIPAW (Route D-50).

10m. **NAH HSAI** (r.s.).

C.G.—For 1 Bn. N.E. of r.s.

For 2 Coys. N.W. of r.s.

Water—Plentiful from streams.

Fuel—Plentiful (2m. distant).

Fodder—Grazing for animals of 1 Bn. 2m. N.E. of r.s.

111m. 4f. *Supplies*—Negligible—5th day bazaar.

ROUTE D-47—concl'd.

Stage 12.

11m. 4f.

NAH-HSAI—I-NAI-LON.

A gravelled and metalled road. Fit for M.T. throughout the year.

11m.

2m. 4f.

4m.

11m.

Passes through wooded, hilly country.

Crosses small stream by bridge.

Road L. to MONG YIN. (Route D-8.)

I-NAI-LON (Shan, 50h., i.b.).

C.G.—(a) In dry weather only, unlimited in paddy fields.

(b) For 3 Bns. round i.b. with clearing.

Water—Plentiful—from wells and NAM YAO.

Fuel—Plentiful—1½m. distant.

Fodder—Grazing for animals of 1 Bn.

Supplies—Negligible—5th day bazaar.

122m. 4f.

Stage 13.

I-NAI-LON—LASHIO.

8m. 0f.

A gravelled and partly metalled road. Fit for M.T. throughout the year.

1m. 0f.

2m. 4f.

6m. 2f.

7m. 3f.

8m. 0f.

Road L. to HOPOK (unmetalled—12m. 4f.).

Crosses NAM YAO by bridge.

Level crossing.

Road L. to LASHIO r.s. 1m. 2f.

LASHIO (i.b., hosp., p.t.o., r.s., p.s., f.f.p.) Aerodrome.

Terminus of B.R.

Residence—Supdt. N.S.S.

C.G.—For 1 Div. round B.F.F. lines.

Water—Rapid supply with stand pipes.

Fuel—Unlimited.

Fodder—Grass scarce. Grazing unlimited. Large open spaces.

Supplies—Nil though any requirements could easily be collected here. 5th day bazaar.

130m. 4f.

ROUTE D-48.

KYAUKME—NAMHSAN.

Length :—68m. 5f.

7 Stages.

Epitome—

Road is metalled and fit for light M. T. throughout the year. In places it is very narrow and the corners are very sharp; heavy M. T. would have difficulty in passing along it. It passes through dense mountainous country. Crosses NAM ONG river at mile 13 and thence follows line of NAM HSIN river to MONGNGAW.

C.Gs.—In stage 1—For 50 men.

In stage 2—For 1 Bn. in dry season.

In stage 3—For 2 Bns. in dry season.

Remaining stages—For 1 Bn.

Water—Unlimited.

ROUTE D-48—contd.*Fuel*—Unlimited.*Fodder*—Stage 1—Grass and bamboo leaves ; no grazing.

Stage 2—Bamboo leaves only.

Stage 3—Grass and grazing animals.

Stages 4 and 5—Grass unlimited ; grazing scarce.

Stage 6—Scarce.

Supplies—Negligible except in Stage 3 where large quantity of paddy obtainable. Limited quantity of supplies obtainable from shops in KYAUKME and NAMHSAN.

NOTE.—At KYAUKME this route joins D-1, D-42 and D-48.

At MONGNGAW this route joins D-47.

At NAMHSAN this route joins D-47 and D-49.

Stage 1.**KYAUKME—KIO-HSIO.**

9m. 1f.

KYAUKME (i.b., r.s., p.t.o., H. Q. of Sub-division) important trade centre in HSIPAW State on MANDALAY-LASHIO Railway.*C.G.*—(a) For 1 Bde. in ground W. of i.b.

(b) For 1 Bde. in fields N. of r.s.

Water—Unlimited from streams E. & S. of i.b. (liable to be contaminated).*Fuel*—Unlimited.*Fodder*—Grass and grazing unlimited.*Supplies*—Negligible.

9m. 1f.

Reaches **KIO SHIO** (i.b., village is 2m. W. of road).*C.G.*—For 50 men only in and around i.b. compound.*Water*—Plentiful.*Fuel*—Unlimited.*Fodder*—Grass and bamboo leaves plentiful. Grazing nil.*Supplies*—Nil.**Stage 2.****KIO-HSIO—PONGLONG.**

15m.

Metalled road passing through dense country.

13m.

Crosses NAM ONG river (bridged).

13m. 6f.

Passes NAM MANG, here,

C.G.—For 2 Bns. in fields near village (December-May).*Water*—Unlimited.*Fuel*—Unlimited.

15m.

Reaches **PONGLONG** (10h., i.b.).*C.G.*—(a) For a Bn. in fields below i.b. (December-May).

(b) For 50 men in i.b. compound.

Water—Unlimited from stream.*Fuel*—Unlimited.*Fodder*—Bamboo leaves only, unlimited.

24m. 1f.

Supplies—Nil.**Stage 3.****PONGLONG—MONGNGAW.**

10m.

Passes through dense country.

Follows the line of NAM HSIM river.

ROUTE D-48—concl'd.

- 10m. Reaches **MONGNGAW** (55h., i.b.) Consists of 3 villages, centre one of which provides best C.G.
C.G.—For 2 Bns. in fields near i.b. (December-May).
 For 100 men in i.b. compound.
Water—Unlimited.
Fuel—Unlimited.
Fodder—Grazing and grass for animals of 2 Bns.
 34m. 1f. *Supplies*—A large quantity of paddy could be obtained from surrounding villages.

Stage 4. MONGNGAW—HAI HKAM.

- 8m. 4f. Road narrow in places; corners very sharp and dangerous. From **MONGNGAW** to **NAMHSAN** this route coincides with Route D-47.
 8m. 4f. **HAI HKAM** (6h., i.b.).
C.G.—(a) For 1 Bde. in fields N. of village.
 (b) For 200 men in i.b. compound.
Water—(a) Unlimited from stream passing through C.G.
 (b) For 400 men from spring 200 yds. E and W. of i.b.
Fuel—Unlimited.
Fodder—Grass unlimited in neighbourhood.
 42m. 5f. *Supplies*—Nil.

Stage 6. HAI HKAM—KA YA.

- 10m. Road the same as in Stage 5.
KA YA (70h., scattered on spurs, i.b.).
C.G.—(a) For 400 men on cleared space on ridge near i.b. and 100 more on same ridge with clearing.
 (b) 200 men on village spurs.
Water—Unlimited from springs at 8m. 4f. For 200 men from spring 300 yds. N. of i.b.
Fuel—Unlimited.
Fodder—Grass unlimited in neighbourhood; grazing scarce.
 52m. 5f. *Supplies*—Nil.

Stage 7. KA YA—NAMHSAN.

- 16m. Road and country as in Stage 5.
 8m. Road passes through tea gardens.
 16m. **NAMHSAN** (400h., pop. 2,300, i.b., p.t.o., H.Q. of **TAWNG PENG** State and residence of the *Sawbwa*).
C.G.—(a) For 100 men near i.b. on entering town from W.
 (b) For 200 men on ridge S. of State bungalow, E. of village.
 (c) For 100 men in Assistant Superintendent's compound, E. of village.
Water—Unlimited.
Fuel—Unlimited.
Fodder—Scarce.
 68m. 5f. *Supplies*—Small quantities can be obtained from village shops.

ROUTE D-48A.

NAWNGHKIO—KYAWKKU.

Length :—44m. 4 Stages. General direction S.

Epitome—

A fairly good cart road—difficult in the rains, but jeepable in the fair weather. Eleven miles S. of TAWNGHKAM the NAMTU river is crossed by ferry.

NAWNGHKIO (i.b., p.t.o., r.s.) H.Q. of township in the HSUM HSAI Sub-division of HSIPAW State. One mile by metalled road from r.s.

C.G.—(a) For one Bn. near i.b.

(b) For one Bn. near p.s.

Water—Unlimited from spring at i.b.

Fuel—Unlimited.

Fodder—Unlimited grazing near village.

Supplies—Negligible. 5th day bazaar.

NOTE.—At NAWNGHKIO this route joins Routes D-1 and D-45.
At KYAWKKU this route joins Route E-6—motorable in the fair weather; connects with LAWKSAWK and KALAW.

Stage 1.

NAWNGHKIO—KANGYL.

12m.

A good cart track—jeepable in the fair weather.

Passes through forest with much cultivation. Much of the country is rendered almost impassable owing to dense thickets of lantana.

12m.

KANGYL

C.G.—Excellent.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Plentiful.

Stage 2.

KANGYL—TAWNGHKAM.

11m.

11m.

23m.

TAWNGHKAM.

Stage 3.

TAWNGHKAM—NAMTU Ferry.

9m.

The road deteriorates becoming mountainous with steep slopes.

9m.

32m.

NAMTU Ferry. Here the road enters the Southern SHAN STATES. (Route book "E".)

Stage 4.

NAMTU Ferry—KYAWKKU.

12m.

5m.

12m.

44m.

HPAYANGON. The last seven miles to KYAWKKU are practically flat and motorable in the fair weather.

KYAWKKU.

ROUTE D-49.

HSIPAW—PANGHTAN.

Length :—123m. 4f.

11 Stages.

Epitome—

The first four stages of this road are very difficult and can be avoided by using D-1 to KYAUKME and thence D-47 to NAMHSAN.

Generally a good mule track, though bad surface in Stages 1-4. Stages 2 and 5 are difficult passing through mountainous country with steep inclines. In rains difficult going as far as MAN NA and impassable thence to PANGHTAN owing to a number of unfordable streams. THE SHWELI river is crossed by iron bridge in Stage II. Passes through dense mountainous country.

C.Gs.—For about 1 Bn. as far as MAN NA.

For about 2 Bns. from MAN NA onwards (dry season) (i.bs. in Stages 1, 2, 3 and 4).

Water—Unlimited throughout.

Fuel—Unlimited throughout.

Fodder—Grass unlimited except in Stage 4. Grazing only after MAN NA.

Supplies—Negligible. Certain amount of paddy obtainable in Stages 7 and 9

NOTE.—At HSIPAW this route joins Routes D-1 and D-50.

At NAMHSAN this route joins Routes D-47 and D-50A.

Stage 1.

HSIPAW—PANNYAUNG.

9m.

Metalled road. Fit for all M.T. Passing through low hills to

3m.

Passes PANGHSAP-YE.

4m.

Road becomes mule track passing through dense mountainous country. At—

6m.

Passes PANGMAKLANG.

7m.

PASSES PANGSAKWANG.

9m.

Reaches **PANNYAUNG** (10h., i.b.).

C.G.—(a) For 300 men on ridge, at 8m. 7f.

(b) For 200 men on terracing near i.b.

Water—Unlimited from streams 200 yds., N. of i.b.

Fuel—Unlimited.

Fodder—Scarce.

Supplies—Nil.

Stage 2.

PANNYAUNG—KUNHAWT.

12m.

Mule track through dense mountainous country.

1m.

Passes PANGHSAP-YE.

8m.

Passes through Tea Gardens.

9m.

Passes KUNHAWT (South) (2 villages).

21m.

Reaches **KUNHAWT** (50h.—i.b.).

C.G.—For 1 Bn. on ridge near i.b.

Water—For 200 men from spring 100 yds. S.E. of i.b.

Unlimited from stream at foot of hill—W. of i.b.

Fuel—Unlimited from jungle.

Fodder—Scarce.

Supplies—Nil.

ROUTE D-49—contd.**Stage 3.****KUNHAWT—OMASON.**

7m.

Good mule track passing through dense mountainous country.

28m.

Reaches **OMASON** (6h., i.b.).

C.G.—For 1 Bn. in fields below i.b.

Water—Unlimited from stream.

Fuel—Unlimited from jungle.

Fodder—Grass plentiful; grazing *nil*.

Supplies—*Nil*.

Stage 4.**OMASON—NAMHSAN.**

11m.

This stage coincides with Stages 6 and 7 D-47—(P.W.D. metalled road).

39m.

Reaches **NAMHSAN** (dis.; p.o.; 400h.; pop. 2,300; H.Q. of TAWNGPENG State. Residence of SAWBWA).

C.G.—(a) For 200 men on ridge S. of State bungalow.

(b) For 100 men in Assistant Superintendent's bungalow, E. of village.

(c) For 100 men in mule camp near i.b., W. of village.

Water—Unlimited—streams.

Fuel—Unlimited from jungle.

Fodder—Scarce.

Supplies—Small quantities from bazaar shops.

Stage 5.**NAMHSAN—HO HKUN.**

14m. 4f.

Track and country as in Stage 3. Very steep.

4m.

Passes A-RAM.

53m. 4f.

Reaches **HO-HKUN** (20h.).

C.G.—(a) For 1 Bn. on ridge S. of *kyauing*.

(b) For 200 men *kyauing* and *zayat* compound.

Water—Unlimited.

Fuel—Unlimited from jungle.

Fodder—Grass unlimited—grazing scarce.

Supplies—*Nil*.

Stage 6.**HO-HKUN—MAN MAWK.**

13m.

Good track. Country as in Stage 5.

6m.

Passes HO MONG (S).

7m. 4f.

Passes HO MONG (N).

8m.

Passes MANPAO.

66m. 4f.

Reaches **MAN MAWK**. (12h.)

C.G.—(a) For 100 men in open space in village.

(b) For 100 men on spur just before entering village.

Water—Sufficient for 1 Bn. from springs.

Fuel—Unlimited in jungle.

Fodder—*Nil*.

Supplies—*Nil*.

ROUTE D-49—*contd.*

Stage 7.

MAN MAWK—MAN TON.

- 9m. Road and country as in Stage 6.
 3m. 4f. Passes RAUKYING.
 75m. 4f. Reaches **MAN TON** (10h.).
 Here D-52 and D-56 join on L. and D-10 joins on R.
 C.G.—(a) For 1 Div. in paddy-fields (dry season).
 (b) For 1 Bn. (scattered) in *kyaungs*, *zayats* and open spaces in village.
Water—Unlimited.
Fuel—Unlimited from jungle.
Fodder—Unlimited.
Supplies—Negligible. Small quantities of paddy obtainable (small bazaar).

Stage 8.

MAN TON—HO TON.

- 14m. Road and country as in Stage 6; a little easier.
 9m. Very steep and rough climb to 10m. 4f.
 12m. Road branches R. to HO TON.
 89m. 4f. Reaches **HO TON** (8h.).
 C.G.—(a) For 1 Bde. in fields at 13m. (dry season).
 (b) For 100 men on ridge W. of village.
 (c) For 1 Div. in fields 1m. 4f. beyond village (dry season).
Water—(a) Unlimited from streams for (a) and (c) camps.
 (b) For 100 men from 2 springs near village.
Fuel—Unlimited from jungle.
Fodder—Grass unlimited; grazing scarce.
Supplies—Nil.

Stage 9.

HO TON—MAN NA.

- 7m. Route as in Stage 8.
 3m. Becomes very steep, rough and narrow.
 5m. 4f. Surface becomes good.
 96m. 4f. Reaches **MAN NA**. (12h.—Here route crosses Route D-51 and D-57 joins on L.)
 C.Gs.—(a) For 1 Bde. in paddy fields (dry weather).
 (b) For 1 Bn. on cleared ground N. of village.
Water—Unlimited.
Fuel—Unlimited from jungle.
Fodder—Grass scarce; grazing unlimited.
Supplies—Nil (small bazaar).

Stage 10.

MAN NA—MONG HKAK.

- 14m. Good mule track passing through undulating wooded country; impassable in rains.
 1m. Track descends and crosses NAM HKI (NAM PA-LA on map sheet 93E/3) follows line of stream crossing, and recrossing to
 3m. 4f. Reaches NAM CHIT (fordable in dry season) at stream junction. Also from here road L. to TUNSO 4m. Track ascends to

ROUTE D-49—concl'd.

- 5m. 4f. Passes TAGU (Kachin, Maru 14h.).
 8m. 4f. Crosses NAM HPE (wooden bridge—48 ft. long, 3 ft. wide, 8 ft. high). Here road R. to MAN KAU.
 12m. 4f. Crosses NAM HKAK; crosses and recrosses nine times before 14m. (fordable except after heavy rain).
 110m. 4f. Reaches MONG HKAK (Shan, 35h.). Here Route D-14 joins on R.
C.G.—For 1 Bde. S.W. of village.
Water—Plentiful.
Fuel—Plentiful.
Fodder—Plentiful.
Supplies—700 baskets of paddy; unlimited supply of eggs, fowls, vegetables—5th day bazaar.

Stage 12.**MONG HKAK—PANGHTAN.**

- 13m. Good mule track through wooded mountainous country.
 1m. 4f. Passes MONG HKAK (Shan, 7h.).
 Follows NAM HKAK, crossing it four times (fordable except after heavy rain) to
 2m. Where it joins SHWELI. Follows left bank of SHWELI.
 2m. 4f. Passes HKATHKENG (Shan, 6h.).
 3m. Crosses SHWELI by iron bridge (168 ft. long, 9 ft. wide, 40 ft. high).
 5m. 4f. Passes PANGHKA (Palaung 25h.).
 6m. 6f. Road L. to MAITENG (Palaung) 1m.
 7m. Passes TUNSAWK (Kachin, 27h.).
 10m. Crosses NAM LING *chaung* (fordable except after rain) (NAM MA-KYO on map sheet 93 E/6).
 123m. 4f. Reaches **PANGHTAN**. (Kachin, 82h.)
C.G.—For 1 Bn. in and around village.
Water—Plentiful from springs.
Fuel—Plentiful.
Fodder—Plentiful.
Supplies—Nil, except 300 baskets of paddy obtainable.

NOTE.—PANGHTAN and half the last stage are BHAMO District and are taken from Route book "C". (Route C-34.)

ROUTE D-50.**HSIPAW—MAN SAM.**

Length :—28m.

2 Stages.

Epitome—

A metalled and gravelled road, bridged throughout. Fit for M.T. throughout the year. Tps. can operate off road in all stages. A ferry across the NAMTU in Stage 1 suitable for M. T. (in rains may cause a delay of 24 hours). This ferry was destroyed.

C.G.—Average for 1 Bn.

ROUTE D-50—contd.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Grazing for 1 Bn.*Supplies*—Enough for 1 Bn. with previous notice.

NOTE.—At HSIPAW this route joins Routes D-1 and D-49.

At MAN SAM this route joins Routes D-7 and D-47.

At PANGLONG this route joins Route D-50A.

Stage 1.**HSIPAW—NA-SAWPAW.**

15m.

A good metalled road.

8m.

Passes TA TE—here crosses NAMTU by ferry (125 ft. wide in open season—liable to be out of use for short periods in rains; capable of transporting lorries, which must be unloaded before shipment). Normally one ferry boat is kept here. (This Ferry was destroyed in April 1942. It is generally known as the MOTI Ferry.) Thence road rises in easy gradients to end of stage.

15m.

NA-SAWPAW.*C.G.*—For 1 Bn.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Sufficient for 1 Bn.*Supplies*—Nil without previous notice.**Stage 2.****NA-SAWPAW—MAN SAM.**

13m.

Surface metalled or gravel—passable to M.T. throughout the year. Tps. can operate off the road.

2m. 5f.

Passes PANGLONG (i.b.).

28m.

MAN SAM (i.b.).*C.G.*—For 1 Bn.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Grazing for 1 Bn.*Supplies*—Small quantities obtainable with previous notice.**ROUTE D-50A.****PANGLONG—NAMHSAN.**

Length :—30m. (approx.)

3 Stages.

Epitome—

A new road completed in 1941, in the last 20m. running through precipitous mountains. The road is partly metalled and is used by light M.T. in the dry season and with great difficulty during the rains. At any time of the year it is probably much better to go to NAMHSAN by Route D-47, i.e., via KYAUKME, although it is considerably longer. Landslides are frequent and the road is very narrow in places.

PANGLONG (i.b. and rest house of SAWBWA of TAWNGPENG).

ROUTE D-50-A—contd.**Stage 1.****PANGLONG—LILU Ferry.**

11m. Of.

Here the NAM TU river is crossed by ferry.

One ferry boat is kept here.

Up to this point the road passes through pine forests, the gradients are easy and there is little difficulty.

Stage 2.**LILU Ferry—MANG KANG (i.b.).**

9m. Of.

The road climbs up the valley of the NAM KOAI through dense bamboo forests.

Stage 3.**MANG KANG—NAMHSAN.**

10m. Of.]

Road very narrow in places—the latter part of the journey lies through tea gardens.

For details regarding NAMHSAN see Route D-47, Stage

7.

NOTE.—At PANGLONG this route joins Route D-50.

At NAMHSAN this route joins Routes D-47 and D-49.

ROUTE D-51.**THABEIKKYIN—KONWET—NAMHKAM.**

Length :—133m.

12 Stages*

Epitome—

A metalled and tarred road fit for M.T. throughout the year as far as MONG MIT (MOMEIK).

Thence a good mule road the whole way—the last three miles being a cart road passable throughout the year. The country is steep and hilly except between WEGYI and KYUSA. Most streams are bridged. MOMEIK *chaung* (NAMEIK) is fordable in the dry season and is crossed by ferry in the rains. There is no bridge over the MONGWI *chaung* (NAM MYIT); it is crossed by a bamboo raft. Mules must swim. There are rest houses as far as WEGYI and at NAMHKAM.

C.G.—For 1 Bde. at all stages.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Plentiful.

Supplies—Large quantities of paddy, etc., obtainable at MONGMIT (MOMEIK), MONG WI and NAMHKAM—5th day bazaar at all villages except MONGMIT and NAMHKAM where daily bazaar.

NOTE.—For continuity the whole route from THABEIKKYIN—NAMHKAM is reported upon. Seven extra stages, i.e., THABEIKKYIN—KONWET (73m. 4f.) from ROUTES "H", UPPER BURMA, are included as Introductory Stages and attached at the beginning of this report (Route H-139).

NOTE.—At NAMHKAM this route joins Routes D-2, D-52 and D-56.

At MONGMIT this route joins Route D-54.

ROUTE D-51—*contd.*

INTRODUCTORY STAGES (7).

THABEIKKYIN—KONWET.

Length :—73m. 4f.

7 Stages.

Epitome—

A water-bound macadam road as far as 'MOGOK (traffic is sometimes impeded by landslips in rains.) There a metalled road—Fit for M.T. throughout the year.

Many streams are crossed; bridged throughout. (Gradients are steep and bends sharp.) Passes through dense jungle country except in Stage 5 where jungle is thin; i.bs. at all stages.

C.G.—For 1 Bde. throughout.

Water—Plentiful; except in Stage 1.

Fuel—Plentiful; except in Stage 5.

Fodder—Scarce, except in Stages 2, 3 and 4, where bamboo leaves plentiful and Stage 6 where grazing plentiful.

Supplies—Negligible. Small quantities of paddy obtainable at Stages 1, 2, 4 and 5. In Stage 6, 3,000 baskets obtainable with notice.

In Stages 5 and 6, 5th day bazaar.

Stage 1.

THABEIKKYIN—WAPYUDAUNG.

10m.

0m.

THABEIKKYIN. (Burmese, 100h.; p.s.; p.t.o.; r.h.)

On left bank of IRRAWADDY river. H. Q. of a Town-ship Hospital.

C.G.—(a) For 1 Bde. E. of WAGYI *chwung* (liable to floods in rains).

(b) For 1 Bn. in recreation ground E. of village N. of road to MOGOK.

(c) For 1 Bn. N. of B.F.F. Lines.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Obtainable from HMANTHA on r.b. of river.

Supplies—1,000 baskets of paddy and 500 baskets of rice obtainable *with notice*, 50 bullock carts and 100 pack mules obtainable—latter in open season only.

0m.

Metalled road, leaves bungalow on left.

Passes through dense jungle interspersed with light patches. There are several steep inclines. Crosses many streams and nullahs by stone bridges (dry in the dry season).

3m. 5f.

Passes TAUNMATHEIK (Burmese and Shan 15h.).

5m. 3f.

Passes TEZOGYIL (Burmese 15h.).

6m. 4f.

Passes *C.G.*—For 1 Bn. N. of road with clearing.

Water—Scarce.

Fuel—Plentiful.

Fodder and Supplies—Nil.

ROUTE D-51—contd.

10m.

Reaches **WAPYUDAUNG** (Burmese, 100h., i.b.).*C.G.*—For 1 Bde. on open ground N.E. of 10 M.S.*Water*—Plentiful from wells.*Fuel*—Plentiful from jungle.*Fodder*—Scarce.*Supplies*—Negligible. Small quantities of paddy and 15 bullock carts available.

Stage 2.

WAPYUDAUNG—KYAUKHLEBEIN.

6m. 4f.

The road winds steeply uphill through dense jungle for 6f., thence level for 1f., and then descends gradually.

2m. 6f.

Passes *C.G.*—For 1 Bde. S.E. of road in fields (dry weather only).*Water*—Scarce.*Fuel*—Plentiful.*Fodder*—Grazing N.W. of road.*Grass*—Nil.*Supplies*—Nil.

2m. 7f.

Passes **NYAUNGBINTHA** (Shan—Burmese, 34h.). Thence the road undulates.

3m. 5f.

Crosses stream (8ft. \times 1ft.—good water, rapid, rocky bed) by bridge.

4m. 4f.

B.F.F. halting post.

5m.

Passes **POZA** (Shan—Burmese, 15h.).

5m.

C.G.—For 1 Bde. in terraced fields 100 yds. N. of village.*Water*—Sufficient from **POZA chawng** 100 yds. N.W. of village.*Fuel*—Plentiful.*Fodder*—Scarce.*Supplies*—Scarce.

5m. 7f.

Leaving **POZA** road continues undulating.

Descends steeply.

16m. 4f.

Reaches **KYAUKHLEBEIN** (Burmese 47h., i.b.).

(Very malarious in rains; i.b. is E. of bridge and N. of road).

C.G.—For 1 Bn. in fields S.E. of village (dry weather).*Water*—Plentiful from stream.*Fuel*—Plentiful.*Fodder*—Bamboo leaves plentiful.*Supplies*—Negligible. Small quantity of paddy.

Stage 3.

KYAUKHLEBEIN—SHWENYAUNGBIN.

14m. 5f.

Road continues through undulating, dense country with some steep gradients to

11m. 6f.

C.G.—For 1 Bn. S.E. of road.*Water*—Sufficient from stream 10m. 7f.*Fuel*—Plentiful from jungle.*Fodder*—Nil.*Supplies*—Nil.

Road continues; at

11m. 6f.

Reaches **SHWENYAUNGBIN** (Shan, 100h.).

ROUTE D-51—contd.

31m. 1f.

SHWENYAUNGBIN (i.b.) at 31m. 2f., very malarious in rains.

C.G.—(a) For 1 Bde. in fields 800 yds. S.W. of B.F.F. Hill (dry weather).

(b) For 2 Bns. in fields S.W. of road at M.S. 31 (dry weather).

(c) For $\frac{1}{2}$ Bn. on B.F.F. parade ground.

Water—Plentiful from YEBINGYI *chaung* near all C.Gs.

Fuel—Plentiful for all C.Gs. from jungle.

Fodder—Bamboo leaves plentiful. Grass and grazing scarce.

Supplies—Nil.

Stage 4.

SHWENYAUNGBIN—KABAING.

9m. 5f.

Road continues through undulating country with dense jungle.

5m. 4f.

Crosses KIN *chaung* (30ft. \times 2ft.—rapid current; rocky bed) by stone bridge (50ft. long \times 18ft. wide) immediately after crossing a foot path (easily convertible to cart track) branches N. to KINYWA (four villages Shan, 90h). Here C.G.—For 1 Div. in fields N. of KIN *chaung* and W. of largest village.

Water—Plentiful (muddy) from stream.

Fuel—Plentiful from jungle.

Fodder—Grazing and bamboo leaves plentiful.

Supplies—Small quantity of paddy.

KINYWA: Very malarious in rains. Opposite the *kyaung* in the largest village is a mule track from SHWENYAUNGBIN which crosses a stream by a wooden bridge (wide enough for carts).

9m. 5f.

Reaches KABAING (Shan, 93h.) (i.b.), on L. of road if before reaching village. Very malarious in rains.

40m. 6f.

C.G.—For 2 Bns. in dry weather only in fields S. of road 2f. before reaching village.

Water—Plentiful from KABAING *chaung* S. of C.G.

Fuel—Plentiful from jungle.

Fodder—Bamboo leaves plentiful. Scarce grazing.

Supplies—Small quantities of paddy obtainable.

Stage 5.

KABAING—KYATPYIN.

10m. 2f.

Road continues uphill through dense jungle.

1f.

Mule road to KYATPYIN branches N.W.

2½f.

Crosses KABAING *chaung* by bridge.

2m. 1f.

Passes small hamlet (4h.) L. of road.

3m. 7f.

Crosses stream (15ft. \times 2ft.—rapid—rocky bed—very muddy) by a stone bridge 51ft.

Here good water in plenty, obtainable from bamboo spout. From this point the jungle becomes negligible and hills bare.

6m. 5f.

Passes KYAUKKYAN (Palaung 60h. *zayat* for 50 men).

ROUTE D-51—contd.

3m. 7f. *Zayat* for 20 men on L. of road; mule track from KA. BAING joins in from N. W.

10m. 2f. Reaches **KYATPYIN** (Shan—Palaung, 400h.; mining centre; p.t.o.; i.b.)

51m. C.G.—For 1 Bde. on maidan near M.S. 57.

Water—Plentiful from pipe supply—water from streams undrinkable owing to washing in connection with mining.

Fuel—Scarce; obtainable with notice.

Fodder—Scarce.

Supplies—Small quantities of paddy obtainable. 5th day bazaar.

Stage 6.

KYATPYIN—MOGOK.

8m. 4f. A good metalled road, passing through scrub covered low hills.

1m. 4f. Passes KATHE (Shan, 200h.).

2m. 7f. Crosses stream (5ft. × 6ins.) by stone bridge.

3m. 6f. Passes over a Col.; here *zayat* for 20 men R. of road.

6m. Crosses stream (3ft. × 6ins. rapid current) by stone bridge. Here there is:—

C.G.—For 2 Bns. in paddy fields.

Water—Plentiful, but muddy.

Fuel—Plentiful.

Fodder—Grazing plentiful. Grass scarce.

Supplies—Nil.

C.G.—For 1 Div. in fields S. of road.

6m. 5f. *Water*—Plentiful, but muddy.

Fuel—Plentiful.

Fodder—Grazing plentiful. Grass scarce.

Supplies—Nil; obtainable from MOGOK.

7m. 2f. Passes MINDARA (Burmese, 40h.) *kyauq* L. of road.

59m. 4f. Reaches **MOGOK**—[hosp., p.s.; p.t.o.; r.h.; Sub-division KATHA district, pop. 11,000 (mixed)].

C.G.—(a) For 1 Div. on maidan S. of road at 8m. 4f.

(b) For 1 Bde. on Football ground.

(c) For 2 Bns. in B.F.F. Lines.

Water—Plentiful—pipe supply.

Fuel—Plentiful.

Fodder—Grass scarce. Grazing plentiful on slopes N.W. and S. of C.G. (1m. distant), and N. 2m. along road to BER-NARDMYO (Route D-53).

Supplies—Paddy scarce. 3,000 baskets obtainable with notice. 6,000 lbs. of rice obtainable. 5th day bazaar.

Stage 7.

MOGOK—KONWET.

14m. A metalled road. Fit for M. T. throughout the year. Passing through dense mountainous country. Bridged throughout.

7m. Passes PINPYIT (18h.).

C.G.—For 1 Div.

Water—Plentiful.

ROUTE D-51—contd.

Fuel—Plentiful.*Fodder*—Plentiful.*Supplies*—Obtainable from MOGOK and MONG MIT with notice.

9m. 4f.

Crosses GWIMAW *chaung* by wooden bridge.

73m. 4f.

Reaches **KONWET** (34h. r.h.).*C.G.*—For 1 Bde. in paddy-fields W. of r.h. (in dry weather).*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Obtainable (1m. distant in jungle).*Supplies*—Nil.NOTE.—At **KONWET** the route crosses the border into Northern Shan States and thence onwards becomes Route D-51 to **NAMHKAMW**.

Stage 1.

KONWET—MONGMIT (MOMEIK).

10m.

Metalled and tarred throughout. Fit for M. T. throughout the year. Passes through dense mountainous country.

2m.

Crosses **KONWET** (unfordable in dry weather) by wooden bridge just before entering **MONGMIT**.

10m.

MONGMIT (MOMEIK) (p.t.o.; r.h.; capital of **MONGMIT** State and residence of **SAWBWA**).*C.G.*—For 1 Div. N. W. of village.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Plentiful.*Supplies*—500 baskets of paddy after harvest, vegetable and fowls obtainable from bazaar.

Stage 2.

MONGMIT—NAMKAISAN.

13m.

A good mule track, very difficult in rains. Carts can be used in dry weather.

1m.

Crosses **MOMEIK (NAMEIK)** stream over which the **SAWBWA** throws a temporary wooden bridge after the rains; it is dismantled again before the next rains.

3m.

A road branches W. of **SHWEZALI** (Shan, 18h.) to **ONGYAW**.

11m.

Crosses stream by wooden bridge (33 ft. long), thence climbs and descends again to.

23m.

Reaches **NAMKAISAN** (r.h.).*C.G.*—For 1 Bde. N. W. of r.h. (with clearing).*Water*—Plentiful from stream near r.h.*Fuel*—Plentiful.*Fodder*—Grass and bamboo leaves obtainable.*Supplies*—Nil.

Stage 3.

NAMKAISAN—HNINHTAUK.

13m.

Good mule track open throughout the year. Passes through dense jungle to.

2m.

Passes **PAUNGKADAW**.

6m.

Meets **SHWELI** river and runs parallel to it.

ROUTE D-51—contd.

- 7m. Jungle becomes less dense.
 36m. Reaches **HNINHTAUK** (r.h.).
 C.G.—For 1 Bde. near r.h. Also good C.G. for 1 Bde. in
 NAYOK village 3m. distant.
 Water—Plentiful.
 Fuel—Plentiful.
 Fodder—Grazing good. Grass obtainable.
 Supplies—Nil.

Stage 4.

HNINHTAUK—WEGYI.

- 10m. Fair narrow mule track, difficult, muddy in rains.
 Passes through dense jungle.
 3m. 4f. Crosses stream by wooden bridge.
 5m. 4f. Crosses stream by wooden bridge.
 7m. 4f. Crosses **TINGKYIN** *chaung* by wooden bridge (30ft.
 long).
 9m. 6f. Crosses **NAM MAUNG** *chaung* (unfordable in rains) by
 wooden bridge (156ft. long × 9ft. wide).
 46m. Reaches **WEGYI**.
 C.G.—For 1 Div. in fields near village (in dry weather).
 Water—Plentiful.
 Fuel—Plentiful (1½m. from C.G.).
 Fodder—Good grazing.
 Supplies—500 baskets of paddy after harvest, and few
 fowls obtainable.

Stage 5.

WEGYI—KYUSA.

- 14m. A good mule track, difficult, muddy, in rains.
 Passes through dense jungle to
 2m. Passes **HWAAW** (Shan and Palaung, 7h.).
 5m. 2f. The road becomes and continues level.
 6m. Passes **MONGLAU** (Shan and Palaung, 11h.) and just
 after crosses **NAM LAU** *chaung* (unfordable in rains) by
 wooden bridge (72ft. × 6ft.).
 6m. 4f. Passes **NAMPYAWYA** (Shan, 6h.).
 11m. 7f. Crosses stream by suspension bridge (33ft. × 9ft. × 6ft.
 high).
 13m. 2f. Crosses **NAM MAUNG** *chaung* by bridge (78ft. × 6ft.
 × 30ft. high), unfordable in rains.
 60m. Reaches **KYUSA**.
 C.G.—For 2 Bdes. S.W. of village in fields (in dry
 weather).
 Water—Plentiful near C.G.
 Fuel—Obtainable (1m. distant).
 Fodder—A little obtainable from village.
 Supplies—Nil.

Stage 6.

KYUSA—MAN MAWK.

- 9m. 4f. A good mule track. Passes through dense jungle.
 3m. 4f. Steep ascent as far as 7m. the **NAM LAM** *chaung* running
 on R. of road.

ROUTE D-51—contd.

- 5m. Passes MANSAYA (Palaung, 3h.).
 7m. Road ascends and then descends.
 9m. Crosses stream (1ft. deep) by wooden bridge (21ft. × 6ft.).
 9m. 1f. Crosses NALAM *chaung* twice by wooden bridges; and road runs R. to MANTONG and LOILONG. Thence by steep ascent to
 69m. 4f. **MAN MAWK** (23h.).
 C.G.—For 1 Bde. W. of village at 9m. 1f. before crossing.
 Water—Plentiful from NALAM.
 Fuel—Plentiful.
 Fodder—Grass and bamboo leaves obtainable.
 Supplies—Nil. A few vegetables obtainable—5th day bazaar.

Stage 7.

MAN MAWK—MAN NA.

- 11m. 4f. A good mule track undulating through hilly country throughout.
 1m. 4f. Passes HOLING.
 5m. 3f. Crosses NAM JANG *chaung* by log bridge (36ft. × 6ft.).
 6m. Passes HKULING (11h.).
 7m. 5f. Crosses NAM HPAU *chaung* by log bridge (108ft. × 4ft. high). Both sides of stream are cultivated. Here:—
 C.G.—For 1 Bde.
 Water—Plentiful.
 Fuel—Plentiful.
 Fodder—Obtainable.
 Supplies—Nil.
 Thence by steep ascent to
 9m. 2f. Where path R. to KONKANG (30h.); continues ascent to
 10m. 4f. Then descends to
 81m. Reaches **MAN NA**.
 C.G.—Unlimited E. of village.
 Water—Plentiful.
 Fuel—Plentiful (1m. distant).
 Fodder—Good grazing.
 Supplies—Small quantities of paddy, vegetables and salt obtainable—5th day bazaar.

Stage 8.

MAN NA—NA-AW.

- 10m. A good mule track bridged throughout. Open throughout the year. Through undulating (cultivated) country.
 5m. Crosses NAM CHIT by wooden bridge (roofed) (60ft. × 9ft. high).
 6m. 5f. Passes MAN MAN (MAN MAI) (Palaung, 35h) 2f. L. of road. Thence ascends steeply to
 8m. 4f. Passes through a defile and undulates to
 9m. **NA-AW** (18.).
 91m. C.G.—For 2 Bdes. in fields N. W. of village (in dry weather).

ROUTE D-51—contd.

Water—Plentiful from stream.

Fuel—Plentiful (1½m. distant from jungle).

Fodder—Grass and bamboo leaves obtainable.

Supplies—Negligible. Small quantities of paddy after harvest.

Stage 9.

NA-AW—MAKWAO.

9m. 4f.

A good mule track open throughout the year. Passes through hilly, jungle country.

4m. 3f.

Steep ascent to

5m. 4f.

Passes PANGHKA (Palaung, 6h.).

7m. 3f.

Passes SEKAO (Palaung, 7h.), thence road undulates.

100m. 4f.

Reaches **MAKWAO** (Palaung, 17h.).

C.G.—For 1 Bn. S. of village in paddy fields (dry weather).

Water—Plentiful from stream.

Fuel—Plentiful.

Fodder—Grass plentiful.

Supplies—Nil. A few vegetables obtainable—5th day bazaar.

Stage 10.

MAKWAO—MONG WI.

8m. 4f.

A good mule track open throughout the year. Passes through undulating, jungle country.

2m.

Passes LANAW (Palaung, 35h.).

3m. 4f.

Crosses small stream (36ft. × 1½ft. deep) cultivated on each bank.

Passes HAPANG (Shan, 19h.).

8m.

Crosses MONG WI *chaung* (105ft. wide × 4ft. deep) by bamboo raft which carries 8 men (mules must swim in rains).

109m.

Reaches **MONG WI** (Shan, Chinese, Palaung—65h.).

C.G.—For 1 Div. in paddy fields N. of village (in dry weather).

Water—Plentiful from streams.

Fuel—Plentiful (1m. distant).

Fodder—Good grazing.

Supplies—200 baskets of paddy obtainable—5th day bazaar. 50 Tpt. bullocks obtainable.

Stage 11.

MONG WI—MANGPU.

10m. 4f.

A good mule track open throughout the year.

Passes through cultivation.

1m.

Fords stream (36ft. wide × 2ft. deep).

3m.

Crosses stream by wooden bridge (roofed, 36ft. × 6ft. × 12ft. high).

Fords stream (36ft. wide × 1½ft. deep—stony bed).

8m.

Thence ascends through jungle and bamboo trees to

8m.

2 mule tracks join route; (a) W. from PANGYOK (Palaung); (b) N. from NAMHKAM.

119m. 4f.

Reaches MANGPU (Palaung, 42h.).

C.G.—(a) For 1 Bn. at 9m. 4f. in paddy fields (in dry weather).

(b) For 2 Coys. at MANGPU.

ROUTE D-51—*contd.*

Water—Plentiful from stream for C.G. (a) From well for C.G. (b).

Fuel—Plentiful.

Fodder—Grass and bamboo leaves obtainable.

Supplies—Nil. A few vegetables obtainable.

Stage 12.

MANGPU—NAMHKAM.

13m. 4f.

A good mule track open throughout the year. Passes through undulating jungle country to 11m.; thence over open level plain.

2m.

Crosses stream by wooden bridge (30ft. × 6ft. × 12ft. high).

2m. 2f.

Crosses NAM POLONG by bridge (roofed—48ft. × 9ft. × 18ft. high) 50 yds. upstream from bridge. There is a ford (passable in dry weather, 90 ft. wide, 18½ ins. deep—swift current). Thence ascends and descends.

5m. 3f.

Passes MANJAK (Palaung) and NAMSUK (Palaung), thence descends, and follows NAM SAWNGSUP for 2 miles.

12m.

Crosses NAM MAHKA by ford (stream liable to flood; becomes 100 yds. wide in rains).

12m. 4f.

Passes NAM MA (Shan, 35h.), thence almost continuously through Shan villages to

13m. 4f.

NAMHKAM (p.o.; i.b., hospital).

133m.

C.G.—(a) Unlimited in paddy fields E. of village (in dry weather); also four large *zayats* in village.

(b) For 800 men in village NAWNGSANG 1m. E.N.E. on slightly rising ground near A.B.M. School. There are three large wooden buildings here and camping space near village.

Water—From stream and well.

Fuel—Scarce; previous notice required.

Fodder—Good grazing in both C.Gs.

Supplies—Plentiful; previous notice required for meat.

ROUTE D-52.

TWINNGE KYAUKMAW—MAN TON.

Length:—78m. 4f.

7 Stages.

Epitome—

A good unmetalled road in Stages 1, 2 and 3 and thence a good mule track. Bridged throughout. The route in the first 3 stages is unfit for M.T. in its present condition but could easily be made fit for dry weather motor traffic. In Stage 1 the route would be very heavy going in the rains. Tps. are unable to operate off the road to any extent. There is a possible space for an aerodrome, with considerable clearing, in Stage 3.

C.Gs.—For at least 3 Bns. in each stage.

Water—Unlimited throughout.

Fuel—Unlimited from jungle throughout.

ROUTE D-52—*contd.*

Fodder—Unlimited except Stage 6 where scarce.

Supplies—Negligible. Large quantities of paddy obtainable from MONGMIT (Stage 3) with previous notice.

NOTE.—At MAN TON this route joins Routes D-10, D-49 and D-56.

NOTE.—For continuity the whole route from TWINNGE—MAN TON is reported upon. Two extra stages, *i.e.*, TWINNGE—KYAUKMAW (19 miles) from Route H-141 UPPER BURMA, are included as introductory stages and attached at the beginning of this report.

KYAUKMAW—MAN TON.

INTRODUCTORY STAGES.

TWINNGE—KYAUKMAW.

Length :—10m.

2 Stages.

Epitome—

A fair unmetalled road in Stage 1. Good in stage 2. Unfit for M.T. but could easily be made fit in dry weather. Unbridged in Stage 1. Streams passable in dry weather; probably difficult in rains.

Stage 1.

TWINNGE—PINKAN.

11m.
0m.

TWINNGE (i.b.; p.s.; 50h.; 1m. from l.b. of IRRAWADDY in dry weather. Water rises to village in rains).

C.G.—(a) For 2 Bdes. between village and river in dry weather.

(b) For 1 Bn. near i.b. and p.s.

(c) For 1 Bn. in *kyaungs* and *zayats*.

Water—Unlimited from river and village wells.

Fuel—Unlimited from jungle.

Fodder—Grass scarce. Grazing available in dry weather and plentiful in rains.

Supplies—Nil.

Unmetalled road, unfit for M.T. Unbridged. Passes through dense jungle.

9m.

Passes KYAUKPYU—here *C.G.* for 2 Bdes. in paddy fields in dry weather.

Water—Unlimited.

Fuel—Unlimited.

Fodder—Unlimited.

Supplies—Nil.

Between here and PINKAN a stream is crossed 4 times, probably impassable in rains.

11m.

Reaches PINKAN (10h.; F.R.H.).

C.G.—(in dry weather for 2 Bdes. in paddy fields).

Water—Unlimited.

Fuel—Unlimited.

Fodder—Unlimited.

Supplies—Nil.

ROUTE D-52 -*contd.*

Stage 2.

PINKAN—KYAUKMAW.

- 8m. Unmetalled road, unfit for M.T. Passes through dense hilly country; very difficult in rains.
 8m. Reaches **KYAUKMAW** (i.b.; 8h.).
 19m. C.G.—(a) For 1 Bde. in paddy fields (in dry weather).
 (b) For 1 Bn. round i.b. with clearing.
 Water—Unlimited from streams.
 Fuel—Unlimited from jungle.
 Fodder—Scarce.
 Supplies—Nil.

NOTE.—At KYAUKMAW this route crosses the border into Northern Shan States and thence becomes Route D-52 from KYAUKMAW—MAN TON.

Stage 1.

KYAUKMAW—NABU.

- 10m. Good unmetalled road, fit for jeeps or better in fair weather. Bridged throughout. Heavy going in rains. Passes through dense, hilly country.
 7m. 2f. Crosses KIN *chaung* (unfordable; 160ft. wide muddy bed, difficult approaches), by wooden bridge (180ft. long × 9ft. wide).
 10m. Reaches **NABU** (i.b.; p.s.; 30h.).
 C.G.—(a) (in dry weather) For 1 Bde. W. of village in paddy fields.
 (b) For 1 Bde. S. of village in fields (in dry weather).
 (c) For 1 Bn. (scattered) N. of village near d.b.
 Water—Unlimited from streams.
 Fuel—Unlimited from jungle.
 Fodder—Unlimited from jungle.
 Supplies—Nil.; small quantities of paddy obtainable.

Stage 2.

NABU—PATHIN.

- 11m. 4f. Good unmetalled road; fit for jeeps or better in fair weather—bridged throughout. Passes through open grass and teak forests. Tps. could operate off road after 2m. 4f. to a limited extent. From PATHIN a cart track leads direct to MONGMIT.
 11m. 4f. Reaches **PATHIN** (30h.; i.b.; village 1m. N. of road from 11m.).
 21m. 4f. C.G.—(a) For 2 Bdes. R. of road at 11m. 4f. in clearing in jungle.
 (b) Two good *zayats* L. of road near PAGODA.
 Water—Unlimited.
 Fuel—Unlimited from jungle.
 Fodder—Unlimited.
 Supplies—Nil.

Stage 3.

PATHIN—MONGMIT (MOMEIK).

- 9m. 4f. Good unmetalled road. Fit for light M.T. in dry weather. Bridged throughout. Passes through thick jungle. Tps. unable to operate off road.

ROUTE D-52—*contd.*

4m. 4f. Passes PADAN.
 7m. 4f. Passes TAUNGGANG.
 8m. 4f. Joins Route D-51, MOGOK—MONGMIT.
 9m. 4f. Reaches **MONGMIT (MOMEIK)**, p.s.; p.t.o.; i.b.;
 31m. H.Q. of MONGMIT State and residence of SAWBWA.
 C.G.—(a) Unlimited in paddy fields (in dry weather).
 (b) For 2 Bns. E. of p.s.
 (c) For 2 Bns. N. of village.
 Water—Unlimited from stream.
 Fuel—Unlimited from jungle.
 Fodder—Unlimited.
 Supplies—Large quantities of paddy obtainable with previous notice.

Stage 4.

MONGMIT—MAINGNIN.

12m. Good mule track. Passes through fairly open country where tps. could operate off road to
 4m. Thence through dense hilly country.
 12m. Reaches **MAINGNIN** (60h.).
 43m. C.G.—(a) (in dry weather) For 1 Div. in paddy fields.
 (b) For 1 Bn. N. of village.
 Water—Unlimited from stream.
 Fuel—Unlimited from jungle.
 Fodder—Unlimited.
 Supplies—Nil.

Stage 5.

MAINGNIN—NAMMI CAMP.

8m. 4f. Good mule track passing through dense mountainous country. Tps. unable to operate off road.
 2m. There is a very steep and difficult climb to 5m. 4f. (surface rough).
 7m. Passes NAMMI.
 8m. 4f. Reaches **NAMMI CAMP**.
 51m. 4f. C.G.—(a) For 3 Bns. in paddy fields (in dry weather).
 (b) Several temporary houses in fields as good as average *zayats*, for individuals.
 Water—Unlimited from stream.
 Fuel—Unlimited from jungle.
 Fodder—Unlimited.
 Supplies—Nil.

Stage 6.

NAMMI CAMP—YABON.

12m. 4f. A good mule track. Passing through dense mountainous country. Tps. unable to operate off road.
 0m.—1m. Surface bad and rough; steep ascent.
 3m. 4f. Passes MANGWAN (N), thence steep climb and surface bad to
 4m. 4f. Passes MANGWAN (S).
 8m. Passes TONGYI.
 9m. 2f. Passes MAINGTIN.

ROUTE D-52—contd.

12m. 4f. Reaches **YABON** (70h.).
 64m. C.G.—(a) For 3 Bns. in fields at 11m.
 (b) For 200 men—150 yds. N.N.W. of *kyaung*.
Water—Unlimited at—(a) from stream.
 (b) from springs.
Fuel—Unlimited from jungle.
Fodder—Scarce.
Supplies—Negligible. Small quantities obtainable from bazaar.

Stage 7. **YABON—MAN TON.**

14m. 4f. Good mule track. Passes through dense mountainous country.
 7m. 4f. Surface becomes bad and rough over steep climb to
 9m. 4f. Passes **GAMMAW**.
 12m. 4f. Passes **MANHPAN**.
 13m. 4f. Passes **LAKLAI**.
 14m. 4f. Reaches **MAN TON** (10h.).
 78m. 4f. C.G.—(a) For 1 Div. (scattered) in paddy fields (in dry weather).
 (b) For 1 Bn. (scattered) in *kyaungs*, *zayats* and village.
Water—Unlimited from 2 streams.
Fuel—Unlimited from jungle.
Fodder—Unlimited.
Supplies—Negligible. Small quantities of paddy obtainable. Small quantities of other supplies obtainable from bazaar shops.

ROUTE D-53.

MOGOK—BERNARDMYO—NABU.

Length :—12m.

1 Stage.

Epitome—

A good mule track for 3 miles. Passes through open grass covered hills—thence a fair mule track only, passing through dense, mountainous country. Tps. could operate off the road to 3 miles, but thence onwards the country is too thick. The last 10 miles would be very difficult, and slippery in the rains.

NOTE.—At **NABU** this route joins Route D-52 (**KYAUKMAW—MAN TON**) and at **BERNARDMYO** joins Route H-140.

NOTE.—For continuity the whole route from **MOGOK—NABU** is reported upon. One extra stage, i.e., **MOGOK—BERNARDMYO** (10 miles) from Routes H. UPPER BURMA, is included as an Introductory Stage and attached at the beginning of this report.

ROUTE D-53—contd.**INTRODUCTORY STAGE.****MOGOK—BERNARDMYO.**

(Route H-141, Stage 3.)

10m.

A good dry weather motor road. Passes through open grass, and scrub-covered hills to 3 miles, thence through dense mountainous country to mile 7 and thence through open grass covered hills to the end of the stage.

1m. 4f.

Passes YEBU.

2m. 4f.

Passes THAPANBIN.

4m.

Passes INGPAUK.

10m.

BERNARDMYO (a number of scattered groups of huts. A former military Sanatorium. Now disused. Military cemetery, i.b., F.R.H.).

C.G.—Unlimited in paddy fields and on grassy slopes.

Water—Good; unlimited from streams.

Fuel—Unlimited from jungle (at 7m.).

Fodder—Unlimited; grass and grazing.

Supplies—Nil.

Here the route crosses the border into N.S.S. and becomes Route D-53.

Stage 1.**BERNARDMYO—NABU.**

12m.

A good mule track for 3 miles. Over open grass-covered hills where tps. could operate off the road. Thence becomes steep, and badly graded through dense mountainous country.

12m.

NABU (i.b.; p.s.; here the route joins Route D-52).

C.G.—(a) For 1 Bde. in paddy fields W. of village.

For 1 Bde. in paddy fields S. of village.

(b) For 1 Bn. (scattered) on open ground N. of village and near village and near Dak bungalow.

Water—Good and unlimited from streams.

Fuel—Unlimited from jungle.

Fodder—Unlimited; grazing and grass.

Supplies—Nil (small quantities of paddy obtainable from village).

ROUTE D-54.**MONGMIT—BHAMO VIA MABEIN and SI-U.**

Length :—MONGMIT to SI-U 79m.

9 Stages.

MONGMIT to BHAMO 142m.

General direction N.

Epitome—

The Japanese have improved the MONGMIT-BHAMO road. It is now "an excellent paved road running from MONGMIT to BHAMO". (C. G. 10th. Air Force 18th June 1943 and 14th. A. F., D. I. E. June 9th.)

ROUTE D-54—contd.

C.Gs.—For two Bns. throughout.
Water—Plentiful except in Stage 1.
Fuel—Plentiful.
Fodder—Limited amount available.
Supplies—Nil.

Stage 1.

MONGMIT—MYETHIN SAKAN.

10m.

At the evacuation, this was a well-aligned cart road motorable in the dry season. The Japanese have now made it into an all-weather road. The road runs through dense jungle. Near MONGMIT crosses NAM MEIK stream 225ft. wide—fordable in dry season. Passes SHWEZALI village on opposite bank.

2m. 6f.

Road branches R. to MOLO (30m.).

5m.

Path L. to LETKOKPIN (4m.).

5m. 2f.

Crosses dry stream—(fordable in rains; 75ft. wide).
 Crosses this three times in 1 mile.

7m. 4f.

Jungle becomes more open.

10m.

Reaches MYETHIN (F.R.H., no village).

C.G.—For two Bns. with clearing round r.h.

Water—Scarce. From MYETHIN stream—sufficient for
 2 Coys. in December.

Fuel—Plentiful.*Fodder*—Bamboo leaves; grass scarce.*Supplies*—Nil.

NOTE.—Owing to the scarcity of water and fodder it is advisable
 for a large column to move to MYITSON (17½m.) as a first stage.

Stage 2.

MYETHIN SAKAN—MYITSON.

7m. 4f.

This has been made by the Japanese into "an excellent
 paved road".

7m. 4f.

Junction of NAM MEIK and SHWELI river.

7m. 4f.

Reaches MYITSON (F.R.H., Shan—Burmese 15h.).

Temporary wooden bridge built each year in open season.

C.G.—For 2 Bns.—E. of and in r.h. compound with
 clearing.

Water—Plentiful.

17m. 4f.

Fuel—Plentiful.

Fodder—Little grazing; grass and bamboo leaves from
 jungle.

Supplies—Nil.

Stage 3.

MYITSON—BAHE.

10m.

The Japanese are reported to have made this into an
 all-weather road. This stage runs through *indaing* forest
 where the soil is hard. The SHWELI river is crossed at
 MYITSON by raft and dug-outs.

6m.

Crosses stream (by wooden bridge—36ft. wide).

7m. 4f.

Crosses TADAGYO stream (90ft. wide) by bridge.

ROUTE D-54—contd.

10m.

BAHE (Shan—Burmese, 20h).*C.G.*—For 1 Bde. between *kyauing* and **SHWELI**.

27m. 4f.

Water—Plentiful.*Fuel*—Plentiful.*Fodder*—Limited grazing; grass obtainable if collected.*Supplies*—Nil.

Stage 4.

BAHE—MABEIN.

10m.

Swampy ground. Track L. to **MAHLAINGGON**.

2m.

Strikes r.b. of **SHWELI** river and follows this to 10m.

5m. 6f.

Crosses small streams and immediately after **NAM PAW**

9m. 7f.

stream, fordable in dry weather, 90ft. wide.

10m.

MABEIN (F.R.H., Shan—Burmese, 25h., Routes D-54-A and D-55).

37m. 4f.

C.G.—(a) For 2 Bns. around F.R.H.

(b) For 1 Bn. in dry weather in paddy fields.

Water—Plentiful for (a) from **SHWELI** and for(b) from **NAM PAW** stream.*Fuel*—Plentiful.*Fodder*—Grazing good; grass scarce.*Supplies*—Nil.

Stage 5.

MABEIN—LAWA.

8m.

The road runs through jungle up the **NAM PAW** stream; the country is flat. This route was fit for jeeps or better in fair weather before the evacuation—now an all-weather route, through paddy fields most of the way.

45m. 4f.

LAWA (F.R.H.).

Stage 6.

LAWA—SINPI.

8m.

An easy all-weather route through the jungle up the **NAM PAW** stream.

53m. 4f.

SINPI (F.R.H.).

Stage 7.

SINPI—SIPEIN.

7m. 2f.

An easy all-weather route through dense jungle; there are many small streams to cross.

SIPEIN (16h., F.R.H.).*C.G.*—Good.*Water*—Plentiful.*Fuel*—Plentiful.

60m. 6f.

Supplies—Negligible. Large areas of rice cultivation. There are open plains affording good grazing.

ROUTE D-54—*contd.*

Stage 8.

SIPEIN—TONKWA.

9m. 2f.

1 m. 2f.

3m.

6m. 4f.

7m. 2f.

8m. 6f.

9m. 2f.

70m. 0f.

The road runs through open grassy plain to where the jungle becomes dense.

Crosses stream.

Crosses stream, thence continues to

Crossing open grassy plain—very swampy and heavy going.

Thence across open plain (dry) to

TONKWA (10h., F.R.H.).

C.G.—Good in paddy fields (dry weather only).

Water—Plentiful.

Fodder—No detailed information available.

Supplies—Negligible.

Stage 9.

TONKWA—SI-U.

9m. 0f.

2m.

4m.

7m.

7m. 4f.

9m. 0f.

79m. 0f.

The road passes through forest and swampy country.

Crosses small stream.

Crosses small stream.

Crosses small stream.

Crosses small stream.

SI-U (p.s., F.R.H.).

C.G.—For 300 men in *kyawng*, *zayat* and houses in village.

Water—Plentiful.

Fuel—Plentiful.

Fodder—No information.

Supplies—Large quantities of paddy obtainable.

NOTE.—(At SI-U this route joins D-57.)

This route continues in Route Book "C" to BHAMO; that portion of it from SI-U to MANSI 50 miles) is Route C-48 while MANSI to BHAMO (13 miles) is Route C-VII. The whole route, MONGMIT to BHAMO, is reported to have been made by the Japanese into a good M.T. road.

NOTE.—There is an alternative route from MABEIN to SIPEIN via PINKYEIN. This route is much more difficult than the route via SINPI, and water is much more scarce on the PINKYEIN route. The MABEIN—PINKYEIN—SIPEIN route is as follows:—

Alternative
Route.

Stage 5.

MABEIN—PINKYEIN.

17m.

1m. 4f.

3m. 4f.

4m.

6m.

13m. 4f.

17m.

54m. 4f.

Road runs through paddy fields to

Passes KON-MABEIN with NAM PAW stream on R.

Here there is one small *zayat*. Water limited from well.

Crosses stream; fordable in rains.

Crosses stream; fordable in rains.

The road from KOTA to PINKYEIN joins this stage.

Crosses small range of hills, thence along bed of dry stream for 4m.

PINKYEIN.

C.G.—Limited.

Water—Limited.

Fuel—Plentiful.

Fodder—Available.

Supplies—Nil.

ROUTE D-54—concl.**Stage 6.****PINKYEIN—SIPEIN.**

6m. 2f.

Road runs through dense jungle. Crosses small stream, then across open plain for 6 furlongs, thence across swampy ground, difficult in rains, thence through dense jungle to SINGAN and crosses SINGAN stream.

3m.

5m.

6m. 2f.

60m. 6f.

Crosses small stream and continues to **SIPEIN** (16h., F.R.H.).

C.G.—Good.

Water—Plentiful.

Fuel—Plentiful.

Supplies—Negligible. (Large areas of rice cultivation.)

ROUTE D-54-A.**MABEIN—HINTHA.**

Length :—30m.

2 Stages.

Epitome—

A mule track through jungle. At MABEIN the SHWELI river is crossed by rafts or boats and the track runs through dense jungle.

Stage 1.**MABEIN—NYAUNGBINTHA.**

14m.

3m.

7m.

Passes PYINLAHA (15h).

Crosses stream, thence through forests to crest of hills, thence follows stream for 200 yds. crossing two more streams (45ft. wide and 18ins. deep).

14m.

NYAUNGBINTHA.

C.G.—Very limited.

14m.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Bamboo leaves.

Supplies—Nil.

Stage 2.**NYAUNGBINTHA—HINTHA.**

16m.

Mule track following l.b. of SHWELI through dense jungle. Possible for carts but difficult.

4m.

BAINGBIN (25h.); thence ascends to

6m.

Passes circular clearing (C.G. for 150 men; no water).

7m.

Crosses stream (30ft. wide; steep banks, very thick mud).

Thence steep ascent and descent over a saddle. Becomes rough cart track at 11 miles; passes through heavy sand; thence across a sandy stream and passes through open jungle to

16m.

HINTHA (F.R.H., Route Book "H". Route H-143).

C.G.—Available.

Water—Available.

30m.

Fuel—Available.

Fodder—No information available.

Supplies—No information available.

ROUTE D-54-B.

List of State and Forest Department Roads and Mule Tracks in MONG-MIT State.

1. KATHA—NGA-O (F.R.H.).

Length :—16m.

1 Stage.

Direction S.E.

KATHA is on the railway on the right bank of the IRRAWADDY river.

Cross over to the opposite bank at PALWESHO, thence village cart road (lying in the IRRAWADDY flood area but open in dry season) to INDAYAN (3 miles), thence Forest Department cart road through level *indaing* forest to NGA-O on the SHWELI river.

Entire road motorable in dry season. In rains KATHA-INDAYAN by country boat and INDAYAN—NGA-O can be used by carts and pack transport only.

Most of the area through which the above road runs lies in BURMA (KATHA District, Routes "H" See Route H.156) but NGA-O is in the Northern SHAN STATES (MONGMIT State).

2. NGA-O—MANAGALE—12 miles.

Level country through *indaing* forest. Motorable in dry season. Bridged up to 8 tons. In rains only open to carts and pack transport. In heavy rain, carts may be held up for 2 days till the water subsides. (See Route C.73.)

3. MANAGALE—NGO-SIN—4 miles.

Flat country through paddy fields and grass land, motorable in dry season. In rains only open to carts and pack transport. A good fair weather road for 3 ton lorries runs from NGO-SIN to SHWEGU on the IRRAWADDY (BHAMO District, 20 miles) Route C.73.

4. NGO-SIN—KUNDAW (F.R.H.)—19 miles.

Well-graded, unmetalled State road through hilly country with bridges. Motorable in the dry season; in the rains carts and pack transport can be used. The crossing of the NANME stream at KUNDAW is not easy and lorries may have to be hauled across by buffaloes or elephants.

5. NGA-O—ASUGYI (F.R.H.)—10 miles.

Village cart road along SHWELI river; in one place goes over a steep spur. Motorable in dry weather. In rains pack transport only possible as SHWELI floods its banks.

6. ASUGYI—KUNDAW—(8 miles).

Well-aligned cart road through hilly country.

Motorable in dry weather. In rains only pack transport and carts possible.

7. KUNDAW—KUNCHAUNG (F.R.H.)—8 miles.

Well-aligned cart road but bridges neglected; heavy repairs were in hand when evacuation was ordered; when thoroughly repaired this road is motorable in dry weather. In rains only carts and pack transport possible.

ROUTE D-54-B—contd.

8. ASUGYI-KUNCHAUNG—10 miles.

Fair weather M.T. track—very steep in places, runs along SHWELI river, open only in dry season owing to SHWELI river flooding.

9. KUNCHAUNG-MOLON—6 miles.

Village cart road along SHWELI river, open to carts in dry weather only owing to SHWELI river flooding in the rains.

10. MOLON-TAUNGGON (p.s., F.R.H.)—10 miles.

Graded elephant path through hilly country; can be used throughout the year by pack transport only.

11. TAUNGGON-KOTA—14 miles.

Graded elephant path through hilly country; can be used throughout the year by pack transport only.

12. MABEIN-LAWA (F.R.H.)—8 miles.

Flat country. For the most part this road runs through paddy fields. The Japanese have made this into a good all-weather motor road. (Route D.54).

13. LAWA-SINPI (F.R.H.)—8 miles.

As in previous road, No. 12.

14. SINPI-SIPEIN (F.R.H.)—7 miles 2f.

Route D.54; as in previous roads Nos. 12. and 13.

15. SIPEIN-TONKWA (F.R.H.)—9 miles 2f.

The Japanese have made this into an all-weather road. (Route D.54). For the first one mile 2f., the road runs through open grassy plain. For the next six miles, the road passes through dense jungle when it enters an open grassy plain—very swampy and heavy going. This heavy going continues for a mile and a half, and then the last half mile into TONKWA is across a dry open plain.

16. YANBO-TAUNGGON—12 miles.

Cart road through flat forest country—motorable in dry weather. In rains only carts and pack transport.

17. YANBO-KYUNDAWGYI-KOTA—16 miles.

Poor cart road in bad repair—was being improved.

Not motorable. Carts can be used throughout the year.

18. KUNCHAUNG-MABEIN (F.R.H.)—A State cart road.

Fair weather route (unbridged) for loaded 3-ton lorries. This route does not follow the bank of the SHWELI river, but runs S. to KAWDAW, and thence *via* YANBO (F.R.H.), TAUNGSHOWAIK (F.R.H., no village) and KOTA to MABEIN (6 miles), KUNCHAUNG to KAWDAW (15 miles) KAWDAW to MABEIN (22 miles).

When the SHWELI river is in flood the section KOTA-MABEIN is under water—otherwise this section presents no difficulty. The crossing of the MAINGTHA stream is difficult and lorries may have to be hauled across by buffaloes or elephants.

There is a route fit for loaded 3 ton lorries in fair weather from PINKYEIN (*see* Route D.54) to KAWDAW where it join the above KUNCHAUNG MABEIN road.

ROUTE D-55.

TAGAUNG—TADAUNGGWE—MABEIN.

Length :—58m. 4f.

5 Stages

Epitome—

A good cart road throughout. Fit for A.T. carts, etc. Passes through dense country in Stages 1, 3 and 5 and open grassy country and cultivation in Stages 2 and 4. Tps. could operate off road in Stages 2 and 4.

Crosses SHWELI River in Stage 2.

C.Gs.—Good in all stages, except Stage 2.

Water—Plentiful in all stages except Stage 2.

Fuel—Available Stages 1, 2 and 3.

Fodder—Available Stages 1, 2 and 3.

Supplies—Negligible, except Stage 3 where rice is obtainable and Stage 5 where paddy is obtainable.

NOTE.—For continuity the whole route TAGAUNG—SI-U is reported upon. Three extra stages, i.e., TAGAUNG—TADAUNGGWE (38m.) from Routes H, UPPER BURMA are included as Introductory Stages and attached at the beginning of this report.

INTRODUCTORY STAGES.

TAGAUNG—TADAUNGGWE.

Length :—38m.

3 Stages.

Epitome—

An unmetalled cart road. Passing through dense country interspersed with light patches, where tps. could operate off the road to a limited extent. All streams crossed are fordable in the rains.

C.G.—(a) For 2 Bns. in Stages 1 and 2.

Water—Scarce in all stages.

Fuel—Plentiful.

Fodder—Plentiful in Stages 1 and 3, scarce in Stage 2.

Supplies—Nil.

NOTE.—At TADAUNGGWE the route crosses the border into the Northern Shan States and becomes Route D-55.

Stage 1.

TAGAUNG—KYAUK-O.

9m.

TAGAUNG (p.o.; p.s.; r.h.). r.h. is in upper storey of court house.

0m.

C.G.—For 1 Bde. in and round village; there are many *kyaungs* and *zayats*.

Water—Plentiful from river.

Fuel—Plentiful from jungle.

Fodder—Grazing limited; grass must be collected.

Supplies—Negligible. Large quantities of paddy obtainable with previous notice.

Unmetalled cart road passable to A.T. carts. Passes through dense country.

1m. 6f.

Passes PO-GON (Burmese, 15h) through dense country. At

ROUTE D-55—contd.

8m. 6f. Passes through grass plain and old cultivation. Tps. unable to operate off road.

9m. Reaches **KYAUK-O**. (Burmese, 10h).

C.G.—(a) For 1 Bn. round village with clearing.

(b) For 1 Div. on old cultivation at 8m. 6f. with clearing.

Water—Scarce. Sufficient for 1 Coy. only from **KYAUK-O chaung** E of village (holes must be dug in the sand to let water collect.)

Fuel—Plentiful from jungle.

Fodder—Plentiful.

Supplies—Nil.

Stage 2.

KYAUK-O—OK-SHIT-KON.

13m. Unmetalled cart road fit for A.T. carts. Passes through dense country with open patches. The clearing of bamboos, etc., broken by elephants is necessary *en route*. After leaving **KYAUK-O** crosses **KYAUK-O chaung** (dry; steep approaches; 90 ft. wide; fordable in rains).

5m. Crosses **TU AUNG chaung** (90 ft. wide; fordable in rains). Thence through thick jungle to

7m. Crosses **OUNDALAY chaung** (90 ft. wide; fordable in rains).

7m. 2f. Through open grassy plain to

8m. From this point clay soil very difficult in rains for 2 furlongs. Thence level through dense jungle to

11m. 2f. Thence through bamboo jungle.

about 12m. Crosses **SANDWIN chaung** (dry; 90 ft. wide; fordable in rains).

7f.

22m.

reaches **OK-SHIT-KON** (d.b.—Burmese, 9h).

C.G.—For 2 Bns. in and round d.b.

Water—Scarce from **SANDWIN chaung**.

Fuel—Plentiful from jungle.

Fodder—Plentiful.

Supplies—Nil.

Stage 3.

OK-SHIT-KON—TADAUNGGWE CAMP.

16m.

Unmetalled cart road; fit for A.T. carts. Passing through fairly thick jungle country. Tps. able to operate off the road, but only to a very limited extent.

1m. 4f. Passes **HMAING-DAING** (Burmese, 15h).

9m. 4f. Crosses dry nullah (fordable in rains; it is crossed 4 times in $\frac{1}{2}$ mile).

38m.

Reaches **TADAUNGGWE-SAKAN CAMP**.

(No village).

C.G.—For 2 Coys. with clearing.

Water—Scarce; scant supply for 100 men from **TADAUNGGWE chaung**.

Fuel—Plentiful from jungle.

Fodder—Grass obtainable from jungle.

Supplies—Nil.

ROUTE D-55—*concl'd.*

Stage 1.

TADAUNGGWE CAMP—MABEIN.

16m.

Fair cart road; gravel sandy surface. Very steep in hilly sections. Passing through dense country. Tps. unable to operate off road, except at 11m. on grassy plain.

4m. 4f.

Passes BAW (Burmese, 6h).

9m. 4f.

Passes LOUNGCHAUNG SAKAN (No village).

11m.

Crosses open grassy plain.

13m.

Passes PYINLAHA (Burmese, 20h), on SHWELI River.

Here C.G. for 2 Bns. with clearing round *kyaung*.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Obtainable from jungle.

Supplies—Nil.

Thence follows l.b. of SHWELI River to

15m. 6f.

Reaches WAINGLONG CAMP (Burmese, 11h).

C.G.—For 2 Bns. round *kyaung*.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Plentiful.

Supplies—Nil.

Note.—

16m.

MABEIN is directly opposite on r.b. of the river SHWELI (450 yds. wide; unfordable; swift current; crossed by ferry boat and rafts; mules must wade or swim); there is a d.b. here. (Routes D54 and 54-A).

ROUTE D-56.

MAN TON—NAMHKAM.

Length :—149m.

14 Stages.

Epitome—

A good mule road the majority of the way. Some bad places with bad surface. Several very steep gradients. Suitable for Pack Tpt.

C.G.—Probably available at all stages with clearing.

Water—Plentiful except in Stage 10.

Fuel—Available from jungle.

Fodder—Grazing at all stages.

Supplies—Nil.

NOTE.—At MAN TON this route joins Routes D-52 and D-49.

At NAMHKAM this route joins Routes D-51, D-15, and D-2.

Stage 1.

MAN TON—MANSANG (*Kachin.*)

10m.

A good mule road.

Stage 2.

MANSANG—LOIYA (*Kachin.*)

10m.

A good mule road.

1

LOIYA—MOLO (*Shan.*)

Very steep descent to MOLO.

MOLO—SHWEDAUNGON (*Kachin*).

Crosses SHWELI River from MOLO by ferry. Only one boat available.

SHWEDAUNGON—NAMLAN (*Kachin.*)

Very steep and in poor condition.

NAMLAN—HKAMUT (*Kachin.*)

A good easy mule road.

HKAMUT—LOI-HSENG (*Kachin.*)

A good easy mule road.

LOI-HSENG—LOI-WEING (*Kachin.*)

A good easy mule road.

LOI-WEING—HO-KYI (*Kachin.*)

A good easy mule road.

HO-KYI—AUKKA (*Palaung.*)

Very steep descent and then very steep ascent to AUKKA.

AUKKA—SAGA TUM POK (*Kachin.*)

Very steep climb.

SAGA TUM POK—CHAMKA (*Kachin.*)

Good mule road ; easy gradients.

CHAMKA—HINLONG (Shan).

From HPUNGAW onwards easy descent into plain.

HINLONG—NAMHKAM.

Good mule road crossing 2 bamboo bridges *en route*.

ROUTE D-57.**MAN-NA—SI-U.**

Length :—32m.

3 Stages.*Epitome—*

A mule track. Owing to the number of large streams crossed would be impassable in the rains. In stage 2 crosses SHWELI river by bamboo raft. This would cause considerable delay to a large column unless previous notice for collecting rafts and dugouts was given.

C.G.—For 1 Bn. in Stage 1

For 2 Coys. in Stage 2

Unlimited in Stage 3

} In dry weather only.

Water—Plentiful.*Fuel*—Plentiful.*Fodder*—Plentiful.

Supplies—Small quantities of paddy, and vegetables, etc., obtainable in stages 2 and 3.

Stage 1.**MAN-NA—NAM HPE CAMP.**

11m. 2f.

1m.

A good mule track. Passes through wooded hilly country. Descends to NAM KI (NAM PALA) on sheet 93—E/3, follows this, crossing and recrossing it to

3m. 4f.

Junction with NAM CHIT here a road R. to MON-GHKAK (10m.) Follows l.b., of NAM CHIT to its junction at—

5m.

With NAM WAN (246 ft. wide × 4 ft. deep—unfordable in rains).

7m. 4f.

Passes TUNSO (Palaung 31h.), thence descends to

11m. 2f.

Reaches **NAM HPE CAMP** (No village).

C.G.—For 1 Bn. in paddy fields (dry weather only).*Water*—Plentiful from NAM HPE.*Fuel*—Plentiful.*Fodder*—Plentiful.*Supplies*—Nil.**Stage 2.****NAM HPE—LOI SAWNG.**

9m. 6f.

Rough mule track. Passing through wooded hilly country. Crosses NAM HPE and continues to—

1m. 4f.

Passes KONGPAU (Kachin 16h).

3m. 2f.

Passes LOILUM (Palaung 6h).

5m.

Passes NGAWRE (Palaung 11h).

6m.

Crosses SHWELI (215 yds. wide.—20 ft. deep) by bamboo raft. Thence ascends to

9m. 6f.

Reaches **LOI-SAWNG** (Kachin 10h).

21m.*C.G.*—For 2 Coys. near village.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Plentiful.

Supplies—300 baskets, some vegetables, and fowls obtainable.

ROUTE D-57—*contd.*

Stage 3.

LOI-SAWNG—SI-U.

11m.	A good mule track. Passing through wooded undulating country.
1m. 4f.	Passes LAKYE where road branches L. to N'HKAT.
2m.	Road R to LOI-HPANG.
5m.	Crosses NAM YOK (fordable except after heavy rain).
5m. 4f.	Passes PANG HPAK (Kachin 8h.) Road continues mostly level crossing and recrossing the NANHA <i>chaung</i> (NAM-HKAM on sheet 93 E/2) 14 times.
9m. 4f.	Passes SI-THA (Shan).
11m.	Reaches SI-U (Burmese, Shan, Kachin—110h; i.b.).
32m.	(Route D-54.)

C.G.—Unlimited—dry weather—in paddy fields N. of village.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Plentiful; paddy straw and grass.

Supplies—800 baskets of paddy. Fowls, eggs and vegetables obtainable in small quantities.

NOTE.—Here route crosses the border of N.S.S. into BHAMO, BURMA and becomes C-48.

ROUTE D-58.

HSAI-HKAO—MAN NAMHSAWNGKE.

Epitome—

No information concerning this Route is available.

ROUTES IN THE WA STATES.

As a general rule there is no part of the WA STATES to which mule transport and mounted infantry cannot go. Water becomes scarce in April-May.

ROUTE D-59.

KUNLONG—LUFANG.

Length :—30m. 2f.

3 Stages.

Epitome—

A mule track. Level at first more or less parallel to the river NAM HU. This is crossed at the end of Stage 1, by bamboo bridge if previous notice is given for its

Routes D-59—contd.

construction, or by ferry. Passes through hilly country in the last stage. The route begins on the N. bank of the SALWEEN after this river has been crossed.

KUNLONG, (SHAN, 60 houses) river here approx. 60 yds. wide and can be swum by mules in open season.

C.Gs. and water, etc., are available in each stage.

NOTE.—At KUNLONG the route joins all routes crossing the ferry.
At LUFANG this route joins Route D.-60.
At PANGKOM this route joins Route D-61.

Stage 1.**KUNLONG—HOPANG.**

- 9m. The track commences parallel to NAM HU (very dusty).
Passes KAWNGMYENG.
Passes KAWNGHKET.
Passes LONG PANG.
Passes NAM HU.
- 6m. Thence the route crosses NAM HU (NAM TING) river by ferry or by bridge short of NAM HU if sufficient previous notice has been given.
Passes NAM HKIO.
- 7m. Passes TAHO and then NAM LENG.
Crosses NAM LENG and NAM HSAWN streams by temporary bamboo bridge.
Passes HOPANG Bazaar and KAWNGHUNG.
- 9m. Reaches HOPANG Post on main KENGMA—MENTING—HOPANG trade route.
HOPANG (SHAN and SHAN-TAYOK, 50 h.).
The Japanese are widening and improving the road from HOPANG to PANGLONG (January 1944.)

Stage 2.**HOPANG POST—PANGKAWP.**

- 7m. 4f. Track continues as in previous stage.
Passes MONG PANG (at foot of hill).
Passes HPALENG.
Passes MONG HOM (La) just below track.
- 16m. 4f. PANGKAWP (LOILA, 30 h.) Site of B.F.F. post of 100 rifles in 1935-36 and 1936-37.

Stage 3.**PANGKAWP—LUFANG.**

- 13m. 6f. Leaving PANGKAWP the track descends and passes NAM KUN AWN. Thence climbs over ridge and descends to pass NAM UNG ANG. Thence ascends and descends to pass PANGKOM (situated on spur). Here Route D-61 joins the route on R. and there is a possible C.G. Thence continues down spur and passes NAM MU LONG; thence climbs and passes HPAKUTTO; thence climbs steeply to
- 8m. Reaches LUFANG (no information about C.G., etc., is available).
- 30m. 2f.

ROUTE D-60.

LUFANG—NAWN PUNG.

Length :—24m. 4f.

5 Stages.

Epitome—

A track passing through hilly country, very difficult for mules in some places and impassable in the rains in Stages 3 and 4. The track narrows down to a footpath in stretches throughout the route. Gradients generally fairly easy though there are stretches of $1/3$ in Stage 3, $1/4$ in Stage 4, and $1/5$ in Stage 5. Generally a very difficult route and very slow going with mules. The surface in many places needs digging out and repairing.

C.G.—Available.*Water*—Available.*Fuel*—Limited.*Fodder*—Limited jungle grazing.*Supplies*—Nil.

NOTE.—At LUFANG this route joins Route D-59. At NAWNPUNG this route joins Route D-61.

Stage 1.

LUFANG—MANHSAING.

- 4m. 4f. Leaving camp the track follows the contours of the slopes above the NAM IT over easy gradients.
- 2m. 2f. A steep ascent to LUFANG—MANHSAING dividing ridge.
- 2m. 7f. A track forks W. to NAM HSAI.
- 3m. A track forks S.E. to YUNG PANG across the NAN IT.
- 3m. $\frac{1}{2}$ f. Crosses a small stream (unbridged).
- 3m. 5f. Crosses a large dry nullah E. of HULOI (Water exists a short distance below track). Thence the road is well graded. Surface very good and is effectively bridged.

4m. 4f.

NAMHSAING.

C.G.—Available.*Water*—Available.*Fuel*—Available.*Fodder*—Available.*Supplies*—Nil.

Stage 2.

MANHSAING—VING-YUNGPANG.

- 4m. 6f. Leaving camp and going S.E. the track passes R. of MANHSAING leaving the track to NAMMU on the R.
- 3f. Descends through *taungya*—a swamp on the road avoidable by going above it on L.
- 6f. The track emerges on to a ridge S.W. of *taungya* contours, continues round it S. and descends down a spur to NAMMU (the going is very difficult, and steep in places; and would be very difficult for mules in the rains).

ROUTE D-60—*contd.*

- 2m. 4f. Crosses NAM MU (30 ft. \times 1½ ft.) good crossing. Thence ascends steeply up a wooded spur across S. slopes.
- 3m. 5f. Emerges from jungle into old *taungya* clearing on top of spur.
- 4m. Passes YAWNGNAWNG (25h.; stockaded).
- 4m. 2½f. Passes a track W. to PANGLONG, and after a few yards a track E. to PANGLAO. Thence by good track along the top of a wooded ridge.

VING YUNGPANG (60h).

- 9m. 2f. C.G.—Sufficient for 150 men and mules—on top of ridge in dense jungle. Extensive clearing necessary.
 Water—Sufficient but not plentiful—from a spring 100 yds. S. of camp.
 Fuel—Available from jungle.
 Fodder—Limited; jungle grazing.
 Supplies—Nil.

Stage 3.

VING YUNGPANG—MANHPA.

- 4m. Leaving camp the track proceeds S.W. Passes through VING YUNGPANG (special exits being cut in stockades for mules). Thence descends spur steeply, in places 1/4.
- 1m. 1f. Crosses small stream by foot bridge (mules must ford). Thence climbs W.
- 1m. 5f. Reaches top of ridge and continues level.
- 2m. 1f. Steep climb again; gradient 1/3 in places. Track now narrows to a footpath, which had to be improved by digging and jungle cutting for mules.
- 3m. Reaches top of ridge (MANHPA is visible from here ¾ mile W.N.W.) along ridge.
- 3m. 2f. Passes a track S.E. to YONGNGEK.
 This is a very difficult route for mules and would be impassable in the rains.
- 13m. 2f. reaches MANHPA (40h.).
 C.G.—Available.
 Water—Available.
 Fuel—Limited.
 Fodder—Limited.
 Supplies—Nil.

Stage 4.

MANHPA—PANGNOI.

- 3m. 4f. Leaving camp track continues along hillside.
- 2f. Descends to a basin and crosses over *taungyas* to a footpath leading up S.W.
- 7f. Ascends steeply through long grass (gradient 1/4) road repairs continually necessary for the passage of mules.

ROUTE D-60—concl'd.

- 1m. Continues steep ascent through long grass and *taungyas* (the track disappears in places).
 1m. 6f. Reaches top of ridge (5,000 ft.) and continues along it S.W.
 2m. Descends *via* HTAKHTING—PANGLONG track for 400 ft.
 2m. 4f. Track to HTAKHTING descends to follow S.W. branch.
 2m. 6f. Crosses a cliff by built up track—stone steps making slow going for mules.
 3m. 2f. Descends *via* boulder strewn track to a basin (very difficult for mules); thence across basin (open) to

 16m. 6f.

PANGNOI (Chinese—12h.)

C.G.—Available.

Water—Available.

Fuel—Limited.

Fodder—Limited; jungle grazing.

Supplies—Nil.

NOTE.—This stage is very difficult for mules and would be impassable in rains.

Stage 5.

PANGNOI—NAWNPUNG.

- 7m. 6f. Leaving camp the track crosses basin N.W.
 5f. Climbs hills W.
 1m. 2f. Leaves basin and traverses upper slopes of another basin lying S.E. of tracks.
 1m. 6f. Emerges into main valley, overlooking the SALWEEN, and descends steeply (gradient 1/5).
 2m. 5f. Joins main track from PANGLONG where NAWNPUNG—KONGHPEK tracks branch.
 (This section of the route though only a footpath, is passable to mules throughout the year.)
 2m. 5f. Continues along the NAWNPUNG or westerly branch (an excellent, all weather track 6 ft. wide).
 2m. 7f. Crosses a small ridge and commences the long descent into the valley.
 4m. 7f. Leaves the slopes and descends a spur W.
 6m. 2f. Crosses stream (10 ft. × 6 ins.) in valley by good mule bridge; here a C.G. near stream. Thence track ascends ridge to W.
 7m. Reaches top of ridge and traverses across small valley; thence climbs gently to NAWNPUNG valley; thence climbs gently passing NAWNPUNG (Christian—near a pipal tree). Thence along ridge for $\frac{1}{2}$ mile N.W.

 24m. 4f.

NAWNPUNG (Lishu).

C.G.—A good site—on a knoll.

Water—Good and sufficient.

Fuel—Limited.

Fodder—Limited; jungle grazing.

Supplies—Nil.

ROUTE D-61.

PANGKOM—NA-OI.

Length :—41m. 4f.

5 Stages.

Epitome—

A track generally good. Fit for mule tpt. the whole way. Generally climbs and descends with some steep places, no-where too difficult for mules. Crosses several streams. In Stage 5 crosses two streams which might prove difficult in the rains.

C.Gs.—Ample throughout.

Water—Ample throughout.

Fuel—Limited throughout.

Fodder—Limited throughout except Stage 1 where large quantities of paddy are available.

Supplies—Nil, except in Stage 1 where large quantities of paddy are obtainable.

NOTE.—At PANGKOM this route joins Route D-59.

At NA-OI this route joins Route D-62.

Stage 1.

PANGKOM—PANGLONG.

- 5m. 4f. Leaving PANGKOM the track climbs gradually for 200 ft. and then descends.
- 6f. Crosses the PANGHENG (fordable in rains).
Thence after a few yards the track meets the main PANGKOM—PANGKAWP track and continues along it.
- 1m. Leaves main track left-handed and climbs steadily (steep in places), the track is "corduroyed" with stones and might give slight trouble to heavily laden Battery mules, though normally Chinese mules should find no difficulty.
- 2m. 4f. Passes SHANG CHAI (4h).
After 100 yds. passes SHANG CHAI (7h.).
Thence climbs steadily.
- 3m. Reaches E. edge of a saucer-shaped crater formation. Thence easy going across crater passing a small village (8h.) at western edge of crater.
- 3m. 6f. A steady descent to main PANGLONG—HOPANG trade route; continues along it (level and broad).
- 4m. 4f. Reaches PANGLONG (entered through a loopholed gateway—fortified).
Passes through the village (track paved with stone) to

5m. 4f.

PANGLONG CAMP.

C.G.—Ample.

Water—Ample. Water troughs are necessary for Government mules. Water runs through *C.G.*

Fuel—Limited.

Fodder—Large quantities of paddy.

Supplies—Nil, except large quantities of paddy.

The Japanese are widening and improving the road from HOPANG to PANLONG (January 1944).

ROUTE D-61—*contd.*

Stage 2.

PANGLONG—NAMHPUNG.

5m. 6f.

Leaving C.G. the track passes under an archway on S.W. side of the village, and descends gradually (the valley narrows to about 400 yds.). Passes PANGLONG (NON-PANTHAY village). After 500 yds. a track L. to KONGPYEK, thence slight ascent.

1m. 4f.

Track commences a long descent—steep in places.

4m.

A track L. to NAWI.

4m. 2f.

Crosses the NAHPUNG (10 ft. × 2 or 3 ins. fordable in rains) by a foot bridge. Thence gradual ascent to village where villagers are mostly Christian, and very helpful.

11m. 2f.

reaches **NAMHPUNG**.

C.G.—Ample on S. side of NAMHPUNG Village.

Water—Good supply, 800 yds. from camp and 300 ft. below; and 100 yds. below this sufficient for 100 animals with troughs.

Fuel—Limited.

Fodder—Limited.

Supplies—Nil.

Stage 3.

NAMHPUNG CAMP—KAWNGHSA.

11m.

Leaving C.G. the track undulates along the MANHONG ridge (track quite good) to

3m. 2f.

Passes MAN HONG (4 or 5h): HONG TONG LENG Sigs visible from this village. Thence track descends, in places very steep. Passes MANSANG (8h.) and thence very steep drop to

6m. 6f.

Crosses NAM IT (17 ft. × 2 ft., fordable in rains) by foot bridge. In rain the track to this stream would probably require attention. Thence ascends.

9m. 2f.

Passes MONGYUN—here good C.G. Fair grazing for animals. Thence ascends for $\frac{1}{2}$ mile.

9m. 6f.

Ascends for a mile.

10m. 6f.

Passes KAWNGHSA (HONG TONG LENG Sigs visible from the village; bearing 7°).

Thence descends to

2m. 2f.

KAWNGHSA CAMP.

C.G.—S. of village $\frac{1}{2}$ mile. There is a better site 500 yds. distant on NAWI track; it requires clearing but there is water available and it is level.

Water—Available—300 yds. distant W.

Fuel—Limited.

Fodder—Limited.

Supplies—Nil.

Stage 4.

KAWNGHSA CAMP—NAWI.

8m.

Leaving camp the track descends.

2f.

Crosses a small stream. Thence steady ascent (going good).

ROUTE D-61—concl'd.

- 1m. 6f. Crosses another small stream (small but good supply of drinking water). Thence climbs, in places very steep. HONG TAW LING is visible on several occasions.
- 4m. 4f. Track descends in very good condition.
- 6m. 4f. Joins the main MONGNAWNG-HOPANG trade route, thence track undulates.
- 7m. 2f. Crosses a small stream (ample water supply).
- 7m. 6f. Passes NAWI (Chinese).

30m. 2f.

NAWI CAMP.*C.G.*—Ample.*Water*—Ample $\frac{1}{2}$ m. distant along NA-OI track for men and animals.*Fuel*—Limited.*Fodder*—Limited.*Supplies*—Nil.**Stage 5.****NAWI CAMP—NA-OI.**

- 11m. 2f. Leaving camp the track descends.
- 2f. Crosses NAM NA by 9 ft. bridge: banks 6 ft. high unfordable at this point. Thence climbs gently.
- 6f. A track L. to MAN NA. Thence track undulates and at
- 1m. 2f. Passes MAN HSAWN HKAN; thence track climbs, gently, at
- 2m. A track R. to PANG KANG. Thence descends passing another R. to PANG KANG. Thence climbs gradually up valley passing one stream, and crossing another (bridged by 6 ft. foot-bridge. Fit for lightly laden mules) the stream is here fordable but might be difficult in the rains.
- The valley now narrows considerably to only 100 yds. wide when
- 3m. Track crosses from N. to S. side. Thence track climbs steep in places to
- 4m. Reaches top of ridge; here passes NAMUNG (10h.) Thence climbs gently to the top of another ridge at
- 5m. Thence climbs to the top of another ridge at
- 5m. 6f. Thence track undulates.
- 7m. Passes PANGYAWT (10h. and *kyaung*). Water is scarce here. Thence descends. Passes at
- 11m. NA-OI, straggling village about 10h. After 200 yds. descent reaches.

41m. 4f.

NA-OI CAMP.*C.G.*—Ample.*Water*—Ample supply.*Fuel*—Limited.*Fodder*—Limited.*Supplies*—Nil.

ROUTE D-62.

NA-OI—MANKWEI.

Length :—23m. 2f.

4 Stages.

Epitome—

The track is passable to mules the whole way, for the most part through mountainous country with gradual ascents and descents. In stage 1 it crosses the NAM KUNLONG, rather deep; a temporary bridge was constructed for the last column. The C.G. in stage 2 is very cramped for a large column. Thence track is good with gentle gradients to MANKWEI.

C.Gs.—Cramped in stages 1 and 2. Good in stages 3 and 4.

Water—Sufficient in all stages except stage 2 where limited.

Fuel—Limited in all stages except 3.

Fodder—Limited in all stages except 3.

Supplies—Nil, except stage 3 where paddy obtainable.

NOTE.—At NA-OI this route joins Route D-61.

At MANKWEI this route joins Route D-63.

Stage 1.

NA-OI—NAMLOK.

9m. 4f.

Leaving *C.G.* the track climbs gradually leaving NA-OI on L. Passes a track L to TA HSAI LENG.

6f.

Passes PANGSONG. Thence surface of track improves and track descends gradually; passes a small stream.

3m. 4f.

Reaches cross roads; here (a) track R. to KAWNG-HKA.

(b) track L. to NAMPE.

Thence gradual ascent.

6m. 2f.

Passes HPAK KUM (10h), and passes over site of old *kyaung*. This would make a good C. G. but water is scarce.

7m.

Meets track to HSOP KUNG. Thence descends to NAM KUNLONG river ford (180 ft. x 3 ft.—about $4\frac{1}{2}$ m.p.h. current) (here a foot bridge was thrown across for the passage of the last column). Thence steep ascent.

7m. 4f.

Becomes more gradual ascent along the bridge of the NAM KUNLONG and NAM MA divide. Thence track undulates.

8m. 6f.

Track forks L. to PANGYAWT. If water were available in this village this might be surveyed as an alternative route to NAM LOK. Thence a steep climb to

9m. 4f.

NAM LOK.

C.G.—Cramped—in tea garden overlooking village.

Water—From two sources (a) on N. side—poor.

(b) on S. side—fair.

Animals must be watered from a trough. Both sources approx. 500 yds. distant and 300 yds. below C. G.

Fuel—Limited.

Fodder—Scarce—a shortage of grass—Jungle grazing.

Supplies—Nil.

ROUTE D-62—contd.

Stage 2.

NAM LOK—MOTLONG.

7m. 2f.

1m.

3m.

3m. 6f.

Leaving C. G. the track climbs in some places steeply. Reaches the top of the ridge. Thence descends gradually, with short level stretches, to Passes MANKAWNG (14h). Continues descent and at Crosses a small stream. Thence climbs steeply. After 200 yds. a cultivation track forks L. On reaching height of 3,700 ft. it descends passing a track R. to MANTON. Thence straight descent to MOTLONG.

16m. 6f.

MOTLONG CAMP.

C.G.—Cramped—an alternative site could be made by clearing the hill top immediately S. W. of village. Not very much clearing required.

Water—Supply limited.

Fuel—Limited.

Fodder—Limited jungle grazing.

Supplies—Nil.

NOTE.—The shortage of water in this area limits the number of potential C.Gs.

Stage 3.

MOTLONG CAMP—HTAP-U.

3m. 2f.

Leaving C. G. the track follows the MANKWEI ridge undulating (ascending rather than descending).

Passes in quick succession :—

PANGNON

MANKYAWNG

MANKAT

YAWNG KRAWNG

KAWNG KANG

MAN KAWNG

} These villages contain between them approximately 400h.

Track in very good condition and well looked after.

20m.

HTAP-U.

C.G.—Ample—cleared by last column.

Water—Sufficient—100 yds. E. of C.G.

Fuel—Obtainable.

Fodder—Ample supply.

Supplies—Nil.

Stage 4.

HTAP-U—MANKWEI.

3m. 2f.

Leaving C.G. the track descends gradually along the MANKWEI ridge with one slight rise, to a clearing which would make an ideal C. G. before reaching the next rise, at

1m. 6f.

A prominent and large BANYAN tree here. (The track from HTAP-U to this Banyan tree was very carefully fortified with well sited trenches W. of track and 200 yds. from the tree the track was stockaded and a strong earth work flanked either side of the track for over 300 yards.)

ROUTE D-62—concl'd.

Thence the track descends slightly and then rises through an old stockade leading to MANLONG. Thence ascends and passes in quick succession :—

MANKYAWNG.

MANKUN.

MANKIA.

23m. 2f.

reaches **MANKWEI CAMP.**

C.G.—Ample—on knoll immediately E. of and completely commanding MANKIA.

Water—Sufficient, $\frac{1}{2}$ mile distant.

Fuel—Limited.

Fodder—Jungle grazing. Limited.

Supplies—Nil.

In 1935-36 MANKWEI was strongly anti-British and resisted the B.F.F. column. The village was attacked and burnt. The attitude of the villagers remained unchanged.

ROUTE D-63.**MANKWEI—PANGLONG.**

Length :—30m. 6f.

4 Stages.

Epitome—

A good track. Fit for mule tpt. whole way. In Stage 1 it ascends and descends continuously being very steep in places but nowhere impassable. In Stage 2 it generally follows the line of the NAM KUNLONG; in the middle of this stage the ground is lowlying and would be impassable in the rains. The NAM KUNLONG is crossed in Stage 3 and the track then climbs to the PANGYAN plateau. This climb might cause difficulty to heavily laden mules. Thence good going across the plateau.

C.G.—Ample space in all stages except I where cramped.

Water—Available at all stages.

Fuel—Available—limited.

Fodder—Available—limited.

Supplies—Nil.

NOTE.—At MANKWEI this route joins Route D-62.
At PANGLONG this route joins Route D-61.

Stage 1.**MANKWEI—CHENLONG.**

11m. 2f.

Leaving camp the track in more or less level and in good condition, and passes MANKIU.

4f.

Passes MANKUN. After 100 yds. a track R to LOILIK. Thence descends, in places steeply.

2m.

A track L to MANKYAWNG. Thence descends again, in places steep.

3m.

Crosses NAM SHWEE (12 ft. x 2 or 3 ins. fordable in rains). Thence climbs with some steep places to

ROUTE D-63—*contd.*

- 4m. 2f. Reaches top of ridge Here track L to CHEN-LONG KAU and MANONG (stockaded) along MANONG ridge. Thence descends—after 400 yds passes trench for 4 or 5 men W. of track.
- 5m. Thence crosses NAM LIN (fordable). Thence climbs steeply in places.
- 6m. Reaches top of CHENLONG KAU ridge. Here a track L to CHENLONG KAU. Thence descends.
- 6m. 2f. Passes PANGKOM (stockaded). Thence turns N. and descends.
- 6m. 6f. Crosses MAW (6 ft. × 6 ins. fordable in rains) by foot bridge. Thence climbs steadily.
- 7m. 4f. Track R to MAN KONG and after a further few yards another track to MAN KONG.
- 8m. Reaches top of ridge and here track R. to MAN-TING. Thence turns L and enters MANG WONG (20h.). Thence level for $\frac{1}{2}$ m. and then easy descent to

 11m. 2f.

CHENLONG (27h).

C.G.—Limited.
Water—Limited.
Fuel—Available.
Fodder—Available.
Supplies—Nil.

Stage 2.**CHENLONG—NAKANG CAMP.**

- 6m. 2f. Leaving camp the track descends steadily with some steep places.
- 2m. Crosses NAKUT (6 ft. × 8 ins. fordable in rains). Thence undulates downward.
- 2m. 6f. Reaches NAM KUNLONG and follows its lb. for $1\frac{1}{2}$ m.
- 4m. 2f. Passes HATMONG (Shan—16h.). Crosses two small streams by foot bridges. (Here track is impassable in the rains as it is very low lying.)
- 4m. 6f. Passes MONGKET (Shan—27h.). Thence passes across irrigated paddy fields which would make an excellent *C.G.* Here again impassable in the rains owing to its low level. Thence valley becomes narrower and more wooded. Here the track is separated from NAM KUNLONG river by a spur jutting out from the main ridge which it climbs over, and descends through cultivated fields to—

 17m. 4f.

NAKANG CAMP.

C.G.—Ample on L b. of NAM KUNLONG.
Water—Unlimited from NAM KUNLONG.
Fuel—Obtainable.
Fodder—Obtainable.
Supplies—Nil.

ROUTE D-63—concl'd.

Stage 3.

NAKANG CAMP—KONGPYEK.

8m. 4f.

Leaving C.G. the track follows L b. of NAM KUNLONG. After 120 yds. crosses the river (153 ft. \times 3½ ft.—3½ m.p.h. current) by foot bridge. Fit for any type or mule tpt.

1m. 2f.

Passes NAKANG (Shan—20h.).

4m. 2f.

Reaches PANGYAU plateau. Occasionally very steep which might be difficult for mules.

Thence level across plateau to

5m.

Passes PANGYAU and PANGTAWM (La). Here water is scarce. (An aeroplane landing ground could easily be made here.) Thence descends gradually passing PANGTAWM TAU (21h.). After ½m. two tracks L to MANNA-WNG. Thence undulates over typical limestone country to

26m.

KONGPYEK.

C.G.—Ample on small ridge opposite the centre of the three main portions of village on site of old *kyaung*.

Water—Ample (a) For drinking from stream W. of C.G.

(b) For animals from stream S. of C.G.

Fuel—Available—limited.

Fodder—Jungle grazing—limited.

Supplies—Nil.

Stage 4.

KONGPYEK—PANGLONG.

4m. 6f.

Leaving camp the track descends.

4f.

Crosses a small stream and ascends through the centre section of KONGPYEK. Here a track L to MAKOK. Thence continues ascent occasionally undulating over limestone ridge, water apparently very scarce.

2m. 6f.

The track joins the main HSAI-LANG PANG-LONG-HOPANG trade route and continues along it to

30m. 6f.

PANGLONG. (300h.).

C.G.—Ample for 250 men.

Water—Ample for above force with tpt. (Water troughs are necessary for good watering of Government animals. The water runs through the camp area.)

Fuel—Available.

Fodder—Jungle grazing and paddy.

Supplies—Large quantities of paddy are available from village.

ROUTE D-64.

HOHSAWN—KANGMENG *via* NAMLA.

Length:—23m. 5½f.

4 Stages.

Epitome—

Only applicable to the dry season.

All stages are in the HKA HOM area N. of the SCOT Line. In all stages there are steep climbs and descents which in some cases, owing to the narrowness of the track are difficult for mules. In order to pass, the track has to be widened out. Many small streams are crossed which do not cause any difficulty. In Stage 1 at 4m. 3½f. a boggy stream needs attention before crossing with mules. In Stage 3 at 4m. 4f. the PULONGAM stream is difficult for mules and a diversion down stream is necessary. In Stage 4 two bad places are met with for mules—first at commencement and secondly at 1m. 1f.

C.G.—Available in each stage.*Water*—Obtainable.*Fuel*—Obtainable.*Fodder*—Obtainable.*Supplies*—Nil.

Stage 1.

HOHSAWN—KAWNGMAWN.

5m.

Commences with a fairly steep descent N. W. through *taungya* and then climbs ridge, thence turns N. and descends steeply through thick wooded valley with rising ground on E. and a drop on W. Track is only 2 ft. wide, bad surface. *Mules must be led with care as it is only a footpath.*

1m.

Track becomes steep and broken—difficult in rains—slippery in cold weather.

1m. 2f.

Track becomes dry but is still a steep descent. Old *taungya* on E.

1m. 4f.

Track runs along ridge not so steep.

2m.

Passes VING LING (La, 26h) in valley. Here a track R—circular return route to HOHSAWN and MAKLAWT. Thence route descends and crosses NAM TAP (flowing N.E. by E. turning and flowing N.W. by W. 43 ft. × 2½ ft.—rocky bottom). by old bamboo bridge; mules must ford above bridge. Here a track L follows down stream. Route then climbs N.E. steeply through thick jungle after 200 yds. turns N.W. Thence again turns N.E., continuing level. Thence undulates crossing a small stream and following another stream for a short distance. No obstacles in dry weather. Track again narrows to 2 ft.; surface good; crosses small stream.

3m. 1½f.

Passes *C.G.* for 200, in *taungya* E. of track. Water from stream. Thence continues N.—high ground W.—a drop E. Thence steep descent—drop on both sides.

4m.

Track very steep and broken by roots of trees.

ROUTE D-64—contd.

- 4m. 1f. Crosses small stream (3 ft. x 6 ins.—no obstacle—flowing N.—gravel bed). Thence steep climb; track very narrow with sides 10 ft. high. (Here track needs widening for fear of mule loads being knocked off). Thence opens out and descends hill—drop on E. side.
- 4m. 3f. Small stream runs down the centre of the track (gravel bottom, but soft mud 9 ins. deep on each bank; difficult for mules in wet weather). Route leaves stream by a big tree; here very boggy and needs filling in. Thence a very steep climb through short water course for 50 yds. Sides need widening. Now route turns E.
- 4m. 6f. Passes a colossal Banyan tree at track junction; (a) right hand track leads E. to village KAWNG MAWN ($\frac{1}{2}$ m.) distant; (b) left hand track leads N. to C.G.

5m.

CAMP.

C.G.—For 300 men (in *taungya* needs clearing and enlarging). Good V/T communication with HOHSAWN and MALIPA obtainable about 100 yds. N. of camp through an intermediate station at LOI HSENG (4478).

Water—From NAM KUM—300 yds. E. of C.G.

Fuel—Obtainable.

Fodder—Obtainable.

Supplies—Nil.

Stage 2.

KAWNG MAWN—HKA MU CAMP.

- 6m. Leaving camp the route runs S. to Banyan tree; here cross tracks mentioned in previous stage. Route turns N.E. Thence descends—2 ft. wide footpath—almost dry water course.
- 3f. Crosses TIN HIN (30 ft. x 2 ft., rocky bed). This is water supply for the last camp. Thence steady climb up ridge S.E., by E. with a steep drop N. and S.
- 7f. Track only 1 ft. wide running N.
- 1m. Crosses small stream 6 ins. deep. No obstacle. Thence undulates E across a dry nullah bed, with a steady climb for 100 yds. through tall grass.
- 1m. 3f. Track L down to valley through 10 ft. grass.
- 1m. 4 $\frac{1}{2}$ f. Crosses small stream running E.—W. (No obstacle.) (Believed to be the KAIMUNGHOH which inhabitants of MANKIU state to be the boundary.) Continues to top of ridge—turns N. and undulates (through high grass).
- 2m. Track N.E. to LOIHPE.
- 2m. 4f. Passes through small jungle and then climbs.
- 2m. 7f. Track turns S.E. New *taungya* N. of track. Thence undulates along ridge with steep drop on both sides.
- 3m. 1f. Bamboo gateway and raised stone path E. to MANKIU (2f. distant).
- 3m. 4f. (a) Stone path S. to MANKIU.
(b) Track E. to HKAMU—3m. distant visible near top of ridge.

ROUTE D-64—contd.

- 3m. 5f. Fairly steep descent through old *taungya*; thence climbs passing MANKIU (2nd village) 1m. S.E. Thence fairly steep descent; narrow in places.
- 4m. 4f. Crosses stream (3 ft. × 6 ins.). Thence steep ascent to top of hill at
- 4m. 6f. (Here excellent V/T communication possible with HOHSAWN 100 yds. S. of track). Track fenced on both sides; extensive cultivation.
- 5m. Passes through small tree jungle.
- 5m. 1f. Track leads straight on to MÈNG TING.
Route turns S.E. and climbs, thence passing through small jungle descends steeply to

 11m.

HKA MU.

C.G.—On spur N.—S. overlooking paddy fields.

Water—Two sources N.E. of camp.

Fuel—Obtainable.

Fodder—Obtainable.

Supplies—Nil.

V/T communication with HOHSAWN 100 yds. N. of camp.

Stage 3.

HKA MU CAMP—NAM LA CAMP.

- 8m. 6½f. Commences N. through paddy fields then turns E. and climbs steeply through grass. Thence level along spur E. (cultivation S.). Thence turns N.E. along side of ridge with steep drop on the E.
- 1m. 4f. Passes HKA MU, thence undulates S.E. on open ridge to junction of 3 tracks. Route—right hand one, through bamboo posts.
- 2m. Track narrows to 2 ft. with drop—W.—rising ground E.
- 2m. 1f. Turns S. and descends slightly.
- 2m. 7f. Track running S.E. undulating through high grass.
- 3m. Steep descent. Old *taungya* on L.
- 3m. 4f. Route surface very broken and here a track joins from L. Thence steep descent through dense country.
- 3m. 5f. Passes MONG TAW (Loila); thence route turns W. by N.W. Crosses small stream 3 ft. wide (no obstacle).
- 3m. 7f. Descends more steeply; open *taungya* on right. Thence track becomes narrow and rocky; needs digging out and widening for mules. Continues descent S. steep drop to S.
- 4m. 4f. Crosses BULONGAM (45 ft. × 2 ft.—rocky bed swift current. Mules must be diverted for 30 yds. due S. where track for them can be made to cross the stream).
- 4m. 5f. Crosses stream (30 ft. × 4 ft. steep banks, rocky bottom, swift current) by old and narrow bamboo bridge. (If mules are diverted at first stream they need not cross the latter). A steep climb immediately after crossing stream, thence track runs S.E. through high grass and continues climbing spur passing paddy fields 1m. E. of track.

ROUTE D-64—concl'd.

- 6m. Commences to climb, a steep drop and extensive cultivation 1m. W. of track.
- 6m. 1f. Passes HKAINGGA (Loila).
- 6m. 4f. Passes MAN MAO (Loila, 10h), Thence route runs S.E. through opium cultivation.
- 6m. 6f. A steep climb through thick jungle to MAN TUMKU (Loila, 20h). Track thence turns S.W. and climbs ridge continuing on top.
- 7m. 3f. Track only 2 ft. wide. Steep drop to E.
- 7m. 4f. Requires widening by cutting away the roots of big trees.
- 7m. 6f. Descends passing NAM LA (20h— $\frac{1}{2}$ m. of E. track). Thence steep descent through thick jungle to
- 8m. Passes village.
- 8m. 4f. Fairly steep descent through cleared *taungya*.
- 8m. 6f. Crosses several small streams.
-
- 19m. 6 $\frac{1}{2}$ f. Here—**NAM LA CAMP.**
C.G.—On level field.
Water—From last two streams crossed at 8m. 6f. with bamboo pipe.
Fuel—Obtainable.
Fodder—Obtainable.
Supplies—Nil.

Stage 4.

NAM LA CAMP—KANG MENG.

- 3m. 7f. Commences S. fairly steep descent; thence very steep descent to cross small stream (3 ft. wide, rather muddy, no obstacle).
- 2f. Crosses small stream (2 ft. \times 4 ft.), no obstacle. Thence turns S.E. and climbs. (Surface bad). Thence turns S. through paddy fields. Crosses two streams. No obstacles. Thence steep climb first S. and then through high grass and bushes with a steep drop N.
- 1m. Passes MANHA (Loila, 8h). Thence S.E. by steep climb; bad for mules.
- 1m. 2f. Passes MANHA (Loila, 15h). Thence turns W. and climbs steadily fenced cultivation, S. Thence turns S.W. through thick bushy jungle. Thence climbs with steep Gradient to top of ridge; thence undulates along ridge.
- 2m. 2f. Track turns S.E. passing between wooden posts through old *taungya* downhill. Thence turns S. climbs to top of ridge and then undulates along it.
- 3m. Undulates along W. of ridge through old *taungya*.
- 3m. 3f. Passes **KANG MENG.**
-
- 23m. 5 $\frac{1}{2}$ f. *C.G.*—On spur running S. $\frac{1}{2}$ m.
Water—Obtainable.
Fuel—Obtainable.
Fodder—Obtainable.
Supplies—Nil.

ROUTE D-65.

HOHSAWN—KANGMENG.

Length :—16m. 4f.

2 Stages.

Epitome—

A mule track passable in the dry season, but impassable in rains to mule tpt. owing to a number of streams, and steep, difficult gradients. Surface good except for one place in both Stages 1 and 2. General direction S.E.

C.G.—Poor in Stage 1 for 1 Coy. only. Good in Stage 2 for 1 Bn.

Water—Scarce and needs chlorinating in Stage 1; sufficient for 1 Bn. with difficulty in Stage 2.

Fuel—Scarce.

Fodder—Only scarce jungle grazing.

Supplies—Nil.

Stage 1.

HOHSAWN—CHAYEN.

10m.

4f.

5f.

1m. 5f.

Leaving camp route ascends steeply.

Passes B.F.F. Post, thence more gradual slope and at Passes No. 1 piquet. Surface of track good.

Thence descends.

Passes E. end of LOI HOHSAWN and HONAM Tap. Here—

C.G.—For 1 Coy. near village; cut in hill.

Water—From stream on far side of village.

Fuel—From jungle.

Fodder—From jungle.

Supplies—Nil.

Thence continues through village; thence road L. to MAKLAWT. Thence gradients up and down get steeper.

Crosses over subsidiary ridge where small *C.G.* near top of ridge by the road. Heavy clearing needed.

CHAYEN. (No village).

C.G.—Poor. For 1 Coy. on spur just before reaching the foot of main SCOTT Line ridge. Route runs through camp site.

Water—From small stream 200 yds. beyond *C. G.* Water needs chlorinating for both men and animals.

Fuel—Limited from jungle.

Fodder—Limited.

Supplies—Nil.

Stage 2.

CHAYEN—KANGMENG.

6m. 4f.

1m. 4f.

3m.

Leaving camp road climbs steeply. At

Reaches top of main ridge (7,000 ft.). Thence steep descent hugging S. side of main ridge.

Passes FUK WAM CHAI (6h.). Thence cuts through gap, in minor ridge to keep the line of main SCOTT Line ridge.

ROUTE D-65—*contd.*

4m. Passes through dense country. Thence crosses a steep narrow valley, and stream and rises to top of main ridge. Here a crude stockade, with loopholes, on either side of road covering road towards CHAYEN for 50 yds. Thence along ridge passing YI LUN CHAI (Loila, 10h.). Thence undulates through scrub jungle and grass to

6m. 2f. Passes KANGMENG.

16m. 4f.

reaches **KANGMENG CAMP.**

C.G.—For 1 Bn. on S. side of ridge beneath hill of Point 'A.'

Water—For 1 Bn. with difficulty from two small streams on either side of camp.

Fuel—Scarce and far afield.

Fodder—Limited; jungle grazing.

Supplies—Nil, 1 or 2 chickens available.

ROUTE D-66.

KANGMENG—LOI KAWNGYI.

Length :—17m. 4f.

3 Stages.

Epitome—

A good mule track fit for Pack Tpt. in dry weather. Impassable to mule traffic in rains. Route overgrown and little used, varying from 1 ft. to 2 yds. wide. Gradients not more than 1/3, and majority 1/6. Surface generally good, through crumbling at first, and bad in one place in Stages 2 and 3. Last stretch into LOI KAWNGYI very steep.

C.G.—For 1 Bn. throughout.

Water—Ample in Stage 1. Limited in Stages 2 and 3—for 1 and 2 Coys. respectively.

Fuel—Ample throughout from jungle.

Fodder—Jungle grazing.

Supplies—Nil.

Stage 1.

KANGMENG—NAMLANG CAMP.

7m. Leaving KANGMENG CAMP route runs S. round S. end of Point 'A' hills and follows crest of minor spur.

2f. Road R to YING PANG TAO. Thence gradual descent, good surface to

1m. 2f. Passes YING PANG NO (Loila, 20h.; friendly; on top of spur). Thence becomes narrow and descends to bottom of valley. Crosses stream and ascends gradually S. side of scrub covered spur. Thence very narrow and crumbling for 2 miles. Mules can use this track in dry weather. Thence spur divides and route runs E. descending steeply to bottom of valley. (100 yds. of very bad surface to begin this descent.)

ROUTE D-66—*contd.*

Crosses stream by wooden bridge, animals must ford. Thence surface is good and ascends 100 ft. to top of spur.

6m.

Passes NAM LANG. Here route turns R and descends gently.

6m. 4f.

Road L to ANKAM.

7m.

NAMLANG CAMP.

C.G.—For 1 Bn. on S. end of *taungya* spur 400 yds. from road.

Water—From NAM KUNLONG river (400 ft. below).

Fuel—Plentiful.

Fodder—From jungle.

Supplies—Nil.

Stage 2.

NAMLANG CAMP—NYIT KRUK (YAWN KRUK).

5m. 4f.

Leaving camp, route descends steeply for 500 ft. and crosses NAM KUNLONG (90 ft. × 6 ins.—18 ins.: gravel-boulder bed; current 5 m.p.h.; easily fordable) by ford and climbs steeply for $\frac{1}{2}$ m. through thick jungle on S. side. (Path overgrown; surface slippery; gradients $\frac{1}{3}$ — $\frac{1}{4}$). At top of ridge route turns R and follows crest. Thence climbs steeply to junction with large ridge.

2m. 4f.

Passes MAN LONG (Loila, 20h; friendly) on top of ridge. Here a road L to KONG LONG.

3m.

A road L to PANGHUNG. Continues along ridge passing E. side of LOI KOK (highest point of ridge) through dense jungle; good surface.

About

5m. 2 $\frac{1}{2}$ f.

Passes NYIT KRUK (Loila, 20h; very friendly; *kyauung*).

12m. 4f.

NYIT KRUK CAMP.

C.G.—For 1 Bn. on E. slope of ridge in old cultivation.

Water—For 1 Coy. only.

Fuel—Unlimited from jungle.

Fodder—Jungle grazing only.

Supplies—Nil.

Stage 3.

NYIT KRUK—LOI KAWNGYI.

5m.

Leaving camp route follows W. side of ridge, rising gently wide, good surface.

1m.

Passes KAT KAYONG BRE (Loila, 6h., friendly). Here a road L to UMCHEU. Thence continues to rise through dense country.

2m.

Passes KAT KAMAN LONG (Loila; 30h.; friendly) stockaded; tunnel (30 ft. × 6 $\frac{1}{2}$ ft.) and gate at each end. After 100 yds. road R to MANRUK.

3m.

Ridge and route turns L to join main LOI KAWNGYI ridge. Surface mainly good; bad in short stretches; gradients steep. Reaches crest of main ridge 1m. S.W. of highest point, thence turns S., very narrow but easily widened and continues 50 ft. below highest point, and at

ROUTE D-66—*concl'd.*

17m. 4f.

Reaches **LOI KAWNGYI CAMP.**

C.G.—For 1 Bn. in two places on grassy spur due S. from main ridge $\frac{1}{2}$ m. S. of highest point.

Water—For 2 Coys. only from small stream immediately below highest point.

Fuel—Plentiful (a) from jungle 300 yds. below crest; (b) From jungle $\frac{1}{2}$ m. distant.

Fodder—Jungle grazing only.

Supplies—Nil.

ROUTE D-67.

LOI KAWNGYI—HSENGA.

Length :—19m.

3 Stages.

Epitome—

A good mule track throughout, suitable for all kinds mule pack tpt. Passing through mountainous country, dense in parts. Surface good and hard throughout, width about 1 ft.—2 yds. Gradients nowhere exceeding $\frac{1}{4}$ and then only for short stretches. Crosses river in Stage 1.

C.G.—For 1 Bn. throughout.

Water—Plentiful throughout.

Fuel—Plentiful throughout.

Fodder—Jungle grazing only.

Supplies—Nil.

Stage 1.

LOI KAWNGYI—CAMP ON E. 6 OF NAM KUNLONG.

10m. 4f.

Leaving C.G. route follows main KAWNGYI spur N., on E. side of spur. Thence descends through open grassland.

1m. 2f.

Passes MANWAI (YAWNG LUITCH) 30h.; Loila; friendly; stockaded with tunnels.

Thence rises to top of spur passing E. of LOI MAN WAI. Surface excellent. Thence descends along crest skirting foot of LOI KAWNG HKAM through scrub and wood jungle.

5m.

Passes outside E. edge of KAWNG HKAM (Loila; friendly).

Here a road L to UMCHEU. Thence continues down spur, narrow through jungle.

5m. 4f.

A road R to HTUNHA (unfit for mules).

A road L to MANLUM.

8m.

Passes KONGLONG (Loila; 10h.; friendly stockaded with tunnel at S. end). Here a road to PANG HUNG. Thence turns R and descends steeply to NAM KUNLONG headwaters, valley reached at

9m. 4f.

Crosses NAM KUNLONG (45 ft. with deep pools; 18 ins. deep at ford) by wooden log bridge 20 ft. high (ford

ROUTE D-67.

known as KONGLONG ford). Thence very steep ascent through thick woods for $\frac{1}{2}$ mile and thence through scrub jungle (thick).

10m. 4f.

reaches **CAMP**.

C.G.—For 1 Bn. on *taungya* R of road on E. side of valley.

Water—Good; for 1 Bn. from river.

Fuel—Unlimited from jungle.

Fodder—Jungle grazing.

Supplies—Nil.

Stage 2.

NAM KUNLONG CAMP—MONGHKA.

4m. 4f.

Leaving C. G. route continues steeply up valley. Narrow and soft surface; through thick jungle up S. side of valley of tributary of NAM KUNLONG.

4f.

A road R to HTUNHA.

1m. 4f.

Route turns R and ascends steeply up side of valley.

2m.

Reaches crest. Here short cut to MONGHKA, 1m. 4f. straight on; (seemed to be fit for mules). Thence descends to wide cultivated valley.

2m. 4f.

Crosses a large stream by a ford. Thence turns L. and joins main trade route track—an excellent level track.

3m.

Crosses another stream by a wooden bridge.

3m. 7 $\frac{1}{2}$ f.

A road L to PANG HUNG.

4m.

Passes MONGHKA (Shan-Tayok; 50h. fenced and stocked with heavy doors; *kyau*ng; friendly).

15m.

MONGHKA CAMP.

C.G.—For 1 Bde. in terraced paddy fields (dry weather only).

Water—For 1 Bn. from small stream running through fields.

Fuel—Unlimited from jungle.

Fodder—Jungle grazing.

Supplies—Negligible. Small quantities of rice and eggs obtainable from village.

Stage 3.

MONGHKA—HSENGA (HSENG NA).

4m.

Leaving camp the route continues climbing through jungle. At

1m. 4f.

Crosses a saddle; here a road R. to MONGTUM. Thence route descends in NAM HSE-NGA valley.

2m. 4f.

Passes UPPER UMTEN (Loila; 10h.; friendly).

3m.

Passes LOWER UMTEN (Loila; 40h.; friendly).

Thence excellent surface, through cultivation crossing several small streams.

The main road to HSE-NGA turns left at UMTEN and descends steeply to the river crossing.

3m. 4f.

Route turns L and descends almost straight down the side of the valley to main route river crossing. Crosses NAM HSE-NGA (30 ft.—45 ft. \times 2 ft.—rushing torrent) by ford and plank bridge (1 yd. wide and not too strong). Thence route winds up N. side of valley, a steep stretch of 500 yds.

ROUTE D-67—contd.

19m.

CAMP.

C.G.—For 2 Bns. on terraced cultivation on N. bank of river.

Water—Unlimited from river.

Fuel—Obtainable from jungle.

Fodder—Jungle grazing.

Supplies—Negligible. Small quantities of paddy obtainable from villages around.

ROUTE D-68.**HSE-NAR—CAMP PANGHUNG.**

Length :—16m.

4 Stages.

Epitome—

This is only applicable to the dry season. The last three stages are in HKA HOM area N. of the SCOTT LINE. There are several places along this route which are difficult for mules. In stage 1 several deviations must be made in order to get mules along and the track needs widening in three places. In stage 2 the banks of the stream crossed need digging out and the track needs widening 1½f. further on for mules. In stage 3 track needs widening and the banks of the stream digging out as in stage 2. In stage 4 the track needs widening twice and the banks of the stream need digging out to allow mules to pass.

C.G.—At all stages.

Water—At all stages.

Fuel—At all stages.

Fodder—Jungle grazing probable.

Supplies—Nil.

Stage 1.**HSE-NGA—KAWNGTIN CAMP.**

5m.

Leaving camp the route undulates—surface very broken, and at—

3f. Passes HSE-NGA.

5f. Route ascends—surface broken.

1m. Route undulates through dense country; many fallen trees across the track which need cutting through.

1m. 1f. Continues climbing; track needs widening.

1m. 3f. Crosses SCOTT LINE over saddle. Thence continues N.W. with steep drop to N.; track needs widening.

1m. 5f. There is a steep drop W. of track and high ground on E.

1m. 7f. A deviation must be made to get round rocks and track must be dug out for 120 yds.; thence continues descending; paddy fields E. of track. Thence steep descent N.W.

ROUTE D-68—contd.

- 2m. 7½f. Crosses stream. Thence climbs; track needs extensive widening in parts; crosses small stream and ascends fairly steeply.
- 3m. 2f. Fairly steep ascent through long grass, and then paddy fields to E. Crosses two small streams.
- 3m. 4f. Crosses a 3rd stream (15 ft. × 1 ft.—rocky bed) by ford. 100 yds. up stream.
- 3m. 6f. Crosses a 4th stream (15 ft. × 1 ft.—no obstacle) by ford. Passes MAN HOM in paddy fields.
- 3m. 7f. The track needs to be dug out for mules; here a steep drop W. of track and a high bank E. of it.
- 4m. 2f. A detour must be made owing to rocks. Thence descends very steeply N.W.
- 4m. 4f. Crosses small stream (12 ft. × 1 ft.—rocky bed) by bamboo bridge; mules must ford. Thence steep ascent.
- 4m. 5f. Track undulates N.W.—N.
- 4m. 6f. Crosses and recrosses small stream. No obstacle. Here a track leads L down to valley.
- 5m. Crosses a small stream by bridge (suitable for mules); here a steep drop S. of track. Thence mules must make a detour of 20 yds. through paddy fields to avoid rocks.

KAWNGTIN CAMP.C.G.—Good; on *taungya* ridge.

Water—From bamboo pipe at stream.

Fuel—Obtainable.

Fodder—Obtainable.

Supplies—Nil.

Stage 2.**KAWNGTIN CAMP—HKANYE CAMP.**

- 3m. Leaving C.G. route descends *taungya* ridge. At—
- ½f. Crosses a stream; thence track runs, above fields, N.
- 2½f. Passes KAWNGTIN.
- 3f. A track leads L down the valley S. Thence a steep descent through paddy fields and at the bottom the track follows the line of a stream.
- 6f. Crosses stream (30 ft. × 2 ft.—rocky bed; swift current). Track then undulates with a steep drop on the S. and crosses a small stream (no obstacle). Thence a steep ascent.
- 1m. Track undulates for a stretch and then descends, climbs and descends again.
- 1m. 3½f. Crosses small stream (4 ft. × 1 ft.—rocky bed; W. bank needs digging out). Thence climbs fairly steeply. Track needs widening.
- 1m. 6f. Track undulates crossing small stream (no obstacle). Thence climbs steeply up *taungya* ridge for 1½ miles to—

HKANYE CAMP.

C.G.—Available.

Water—From a ravine E. of camp.

Fuel—Obtainable.

Fodder—Obtainable.

Supplies—Nil.

ROUTE D-68—concl'd.

Stage 3. HKANYE CAMP—SAWN YAWNG CAMP.

- 4m. 4f. Leaving C.G. route descends *taungya* ridge.
- 1m. Passes HKANYE (Loila). Thence first undulates and then descends gradually.
- 1m. 4f. A steep descent crossing a stream (30 ft. × 1 ft. The banks require digging away for mules) by ford. Thence climbs—a new track must be made for mules.
- 2m. 1f. A very steep corner, round fallen trees, is passed thence a very steep climb, the track being very narrow.
- 2m. 6f. Crosses a stream at a very sharp bend in the track (needs widening for 20 yds.). Thence a gradual, undulating rise—old *taungya* on both sides of the track.
- 3m. Crosses a small stream. Thence continues gradual, undulating ascent with a steep rise N. of the track and a slope S. of it.
- 3m. 4f. Passes SAWN YAWNG (Loila). Thence track undulates to a bamboo clump and then ascends *taungya* spur for 1 mile to—

12m. 4f.

SAWN YAWNG CAMP.

C.G.—Available on *taungya* spur.

Water—Near bamboo clump.

Fuel—Obtainable.

Fodder—Obtainable.

Supplies—Nil.

Stage 4. SAWN YAWNG CAMP—PANG HUNG CAMP.

- 3m. 4f. Leaving C.G. route runs along steep sides of *taungya* and requires considerable widening to allow the passage of mules.
- 7f. The village SAWN YAWNG is visible. Thence track continues through extensive *taungya*.
- 1m. Track descends steeply.
- 2m. 1f. Crosses NAM KUN (60 ft.—90 ft. × 2 ft.—rocky bed) by narrow bridge; the banks require digging away for mules to cross. (Mules should ford N.E. from the fallen trees). Thence a steep ascent through small but dense jungle; track needs widening for mules.
- 3m. 1f. A track W. to NAM PAN.

16m.

PANG HUNG CAMP.

C.G.—On spur almost on SCOTT LINE— $\frac{1}{2}$ m. W. of village.

Water—From stream 300 yds., N.W. of camp.

Fuel—Obtainable.

Fodder—Obtainable.

Supplies—Nil.

ROUTE D-69.

HSE-NGA—PANGKAO.

Length.—23m. 2f.

3 Stages.

Epitome—

A mule track. Impassable in the rains.

Stage 1. Surface good for 3 miles and then narrows and becomes poor in places. Crosses NAM KAW. Steep for 2 miles, thence gradual descent; gradients nowhere more than $1/4$.

Stage 2.—Surface poor and broken; track 1 ft.—2 ft. wide; mostly level with short steep gradients not more than $1/6$. Crosses NAM LU; impassable in rains.

Stage 3.—A good hard surface up to heavy traffic. Steep climb the whole way; gradients about $1/5$.

C.G.—Average for 1 Bde.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Jungle grazing.*Supplies*—Large quantities available in Stage 1: otherwise nil.

Stage 1.

HSE-NGA—MONGKAW—(MENG KHO).

- 9m. Route leaves camp and for $\frac{1}{2}$ mile is along main UMTEN-HSENGA road.
- 4f. Route forks L, crosses cultivation and climbs.
- 1m. Reaches crest of spur.
- 2m. Reaches saddle in SCOTT LINE ridge, thence bears R. Thence ascends gradually along N. side of NAM KAW Valley.
- 2m. 4f. Short steep descent.
- 5m. Passes HKUN KAW (Shan-Tayok and Yunnanese, 50h.).
- 6m. Thence steep descent to bottom of the valley.
- 7m. Crosses NAM KAW by plank bridge.—30 ft. and ford. Thence track becomes narrow along S. side of valley.
- 8m. Reaches broad flat valley of MONG KAW MONG TUM and passes HNAWNG NGUN (Shan Tayok—10h.).
- 9m. Passes MONGKAW (Shan-Tayok—50h.).

C.G.—For 1 Bde. on slightly rising ground E. of river (terraced in paddy fields).*Water*—Unlimited from NAM KAW (300 yds. distant).*Fuel*—Obtainable. From jungle N. $\frac{1}{2}$ mile.*Fodder*—Grazing.*Supplies*—Large quantities of paddy, rice, eggs, fish and oranges obtainable from surrounding villages.

Stage 2.

MONGKAW—MANG NWE.

- 6m. 2f. Leaving MONGKAW route turns L. and winds across the valley, the MONG TUM road going straight on. Crosses NAM KAW (15 ft.—24 ft., very shallow) by ford.

ROUTE D-69—contd.

1m. Slight ascent passing E. of NAWNG NGUN (Shan-Tayok 10h.). Thence track is narrow; through dense jungle on N.W. side of NAM TUM valley; fairly level but the overflows from several streams make bad patches.

3m. 4f. Steep ascent and then descends steeply to NAM LU Valley—2 furlongs wide, and level.

4m. Crosses NAM LU 15 ft. wide by ford and plank bridge. Thence track turns R and follows NAM LU. Surface good and hard till it reaches NAM TUM Valley thence turns L.

4m. 4f. Passes MAN HPA (ruined). From here road R to PANGKAO across NAM TUM. Thence route is narrow and surface is bad.

5m. Route turns N. up W. edge of NAM MANG NWE Valley.

6m. Passes MANG NWE (Shan-Tayok—20h.). A route continues up the valley to KAWNG HSAK and KENGMA.

15m. 2f. **MANG NWE CAMP.**

C.G.—For 1 Bde. or more in dry weather. (Not after rain as it becomes a swamp.)

Water—Obtainable from river and hill streams.

Fuel—Unlimited from hill sides 200 yds. distant.

Fodder—Grazing.

Supplies—Nil.

Stage 3.

MANG NWE CAMP—PANGKAO.

8m. Leaving camp the route retraces the last $1\frac{1}{2}$ miles of the previous stage; then cuts across the valley crossing a small stream in the middle, by a ford.

2m. Crosses NAM TUM (75 ft. \times 4 $\frac{1}{2}$ ft.—banks 4 ft. high; current 4 m.p.h. It takes two hours to cross 100 mules) by narrow single plank bridge for men only. Mules must swim, loads must be carried by hand. Thence route turns L (E.) and zig-zags up very steep cliff face ($1/5$).

2m. 4f. Slope becomes more gradual.

3m. Passes MAN LIAN (AIHSOI—Christian—50h.; in small groups).

3m. 4f. Reaches crest of ridge; surface excellent; thence follows top of ridge through open grassland and poppy cultivation for 3m. No water in this area.

6m. 4f. Route descends into valley and climbs again.

7m. 4f. Country becomes thick scrub jungle. 200 yds. short of village PANGKAO road L to KAWNG HSAK.

23m. 2f. **PANGKAO** (Loila; very friendly; 100h.; half village burnt and deserted).

C.G.—On site of old village S. of present village.

Water—Plentiful from stream 300 yds. E., down the valley.

Fuel—Obtainable from jungle and remains of old village.

Fodder—Grazing.

Supplies—Nil.

ROUTE D-70.

PANGKAO—MAN HEK.

Length:—21m.

3 Stages.

Epitome—

A good mule track throughout with a few soft places.
Up to heavy traffic practically all the way.

Stage 1.—Very steep and surface rough just S. of PANGKAO. Breadth from 2 yds. to 2 ft. Gradients never more than $1/4$ to $1/5$.

Stage 2.—Gradients in some places of $1/4$ — $1/5$ for stretches of $\frac{1}{2}$ mile. Normal breadth 4 yds. to 1 ft. opening to 3 or 4 yds. near villages. Surface hard and up to heavy traffic except through fields where soft. Passable to mules.

Stage 3.—Good surface except in NAM TUM Valley where soft and crumbling. Average breadth 2 yds. to 1 ft. Passable to mules. Gradients not exceeding $1/8$.

C.G.—Average for 1 Bn.

Water—Plentiful—all stages.

Fuel—Obtainable.

Fodder—Grazing.

Supplies—Nil.

Stage 1.

PANGKAO—NAWNGLENG.

5m.

Leaving camp route descends steeply, (gradient $1/8$ to $1/5$) into valley for 500 yds. Track is strewn with boulders. Crosses valley and ascends very steeply. Surface rough for 200 yds.

1m.

Reaches crest, of hill and continues along it. Track broad and good, through thick jungle.

2m.

Passes W. of NAM HSAK (ruined) and joins main route from MENG SUNG and winds down to NAM LENG VALLEY. Surface good, hard and wide.

3m.

Reaches NAM LENG (1 yd. wide) and follows along it for 6 ft. Surface good but narrow.

4m.

Slight ascent begins.

4m. 4f.

Passes NAWNGLENG (Loila—15h.) and continues to rise through jungle for 300 yds. where main route to HKANGWA branches L. Thence crosses river by good bridge and rises through cultivation to—

5m.

NAWNGLENG CAMP.

C.G.—Near road on terraced paddy fields.

Water—Excellent from streams 100 yds. N. of site.

Fuel—From jungle $\frac{1}{2}$ m. N.E. of site.

Fodder—Jungle grazing.

Supplies—Nil.

Stage 2.

NAWNGLENG CAMP—PANGPAI.

9m.

Leaving camp the route continues to rise for 100 yds. and then crosses a small re-entrant—1 yd. wide—good surface.

1m. 2f.

Passes KAWNG BOK (Loila; 50h.; friendly). Thence crosses deep, steep sided valley rising on far side.

ROUTE D-70—contd.

2m. 2f. Passes between KAWNGTOI and HOLIN ($\frac{1}{2}$ m. apart each Loila Christian; 50h.). Route surface between them level and very good. At HOLIN two very good roads branch L. and follow round S. end of valley of NAM LI. After HOLIN surface and route very good.

2m. 6f. Rises gently through cultivation and is very narrow for $\frac{1}{2}$ m.

3m. 4f. Reaches edge of NAM LI Valley and thence drops steeply for 1,500 ft. Crosses NAM LI (6 ft. wide) by plank bridge and ford and then rises steeply to crest at—

5m. Route here very steep, narrow and broken; gradients $\frac{1}{4}$ to $\frac{1}{5}$.

5m. 1f. Passes NAM CHAWK (HPALENG) (Loila; Christian; 100h.; 2 parts; very friendly). Thence route skirts S.E. end of another valley and at—

7m. Reaches crest of W. side. In this stage, track is narrow but surface good and hard. Gradients gentle. Thence track skirts S.E. end of NAM PAI Valley and climbs to crest on western side. The LOI MIEN SHAN towers above the last 3 miles of the route. Here track good and almost level.

14m. **PANGPAI**—(Loila; friendly; surrounded by trees; 50h.).

C.G.—2 Bns. on grassy slopes above PANGPAI.

Water—Plentiful from upper Sowas of NAM PAI 300 yds. distant.

Fuel—Obtainable from jungle.

Fodder—Grazing.

Supplies—Small quantities obtainable from the village.

Stage 3.**PANGPAI—MANHEK.**

7m. Leaving camp the route turns R. and skirting E. and S. sides of PANGPAI follows down crest of PANGPAI spur.

4f. Follows crest of S. leg after spur divides for $2\frac{1}{2}$ miles. Here good and hard with short stretches of uneven boulders narrowing at times to 2 ft. Gradients in places $\frac{1}{8}$.

1m. Passes YAWNG HLUN (Loila: 10h.; friendly). At foot of crest passes MAN NOI (Shan-Tayok; 20h.; friendly) and debauches into NAM TUM Valley. Level paddy fields. Crosses NAM TUM by bamboo foot bridge, and ford (18 ft.—24 ft. wide \times 1 ft.) in middle of the valley. Track here is along narrow bunds and is liable to be very cut up in the rains. On far side of valley rises gently through thick jungle.

4m. Skirts VING PAO.

4m. 6f. A road L. to MONG TUM.

6m. Passes MAN HEK. Here road all uneven stone paving. Slow for mules.

CAMP—SITE.

21m. *C.G.*—For 1 Bn. in several places 1 mile E. of road in terraced paddy fields; in small valleys amid thick jungle.

Water—Plentiful from stream at S. edge of site.

Fuel—Plentiful from jungle.

Fodder—Jungle grazing.

Supplies—Nil.

ROUTE D-71.

MONGKAW (MENKO)—NAWNGLENG.

Length :—6m. 2f.

1 Stage.

*Epitome—**Only applicable in dry weather.*

A mule track with no outstanding bad stretches, though there are several steep climbs. Several small streams are crossed which present no obstacle.

Stage 1.

MONGKAW—NAWNGLENG.

6m. 2f.

The track commences by following a stream, then crosses an other stream (10 ft. × 2 ft.) and follows along it. Here there is a steep cliff E. of track. Thence continues through paddy fields.

7f.

Passes NAM KAMHAM and continues through paddy fields. Thence crosses a dried up jheel with high grass on each side.

1m. 6f.

Crosses a stream by good plank bridge. Thence a fairly steep ascent. On reaching the top it undulates for a short distance then descends crossing an open valley. Thence climbs and descends over two spurs and crosses another paddy valley.

5m. 4f.

Passes NAWNGLENG (burnt).

6m. 2f.

NAWNGLENG CAMP.

C.G.—Near road in terraced paddy fields (small).

Water—Excellent from stream 100 yds. N. of C.G.

Fuel—From jungle $\frac{1}{4}$ m. N.E. of C.G.

Fodder—Jungle grazing.

Supplies—Nil.

ROUTE D-72.

NAWNGLONG—NAWNGLENG.

Length :—15m.

2 Stages.

Epitome—

A narrow track with bad surface and steep gradient in places. Fit for mule tpt. Breadth 1 ft. to 1 yd. Crumbling and dusty for 2 miles and then, except for the bad patches, hard, though uneven, and up to heavy traffic. In the NAM TUM valley there are muddy patches. Gradients nowhere exceed $\frac{1}{8}$ — $\frac{1}{5}$.

C.G.—For 1 Bn.

Water—Plentiful.

Fuel—From jungle.

Fodder—Jungle grazing.

Supplies—Large quantities of rice, eggs, and oranges from surrounding villages.

ROUTE D-72—*contd.*Stage 1. **NAWNGLONG (MONGLONG)—NAM TUM CAMP.**

- 6m. Leaving camp route turns L. away from main watershed ridge and follows spur down through fields; track narrow and surface crumbling.
- 1m. Turns L. and descends steeply $1/6$ to valley. Follows bottom of valley for 300 yds. then turns R. and ascends steeply (gradient $1/5$).
- 2m. 1f. Reaches crest. Still narrow; surface better. Thence undulates through fields circling small reentrants.
- 3m. Reaches crest of next ridge. Thence follows ridge through open grassland.
- 4m. Track turns L. and descends steeply.
- 4m. 4f. Reaches valley and follows the line of a small stream.
- 5m. Crosses stream by plank bridge and ford, where it enters the NAM TUM valley. Thence 1 ft. wide on bunds through paddy fields.
- 6m. **NAM TUM CAMP** (2m. N. of MONG TUM).
 C.G.—(a) For 1 Bn. in several places, on banks of NAM TUM when flooded.
 (b) Unlimited when river is not in flood.
 Water—Plentiful from NAM TUM.
 Fuel—From jungle—at edges of the hill.
 Fodder—Jungle grazing.
 Supplies—Negligible; but large quantities of rice, eggs and oranges obtainable from MONG TUM and surrounding villages.

Stage 2. **NAM TUM CAMP—NAWNGLENG.**

- 9m. Leaving camp the route continues to wind across valley.
- 2f. Crosses NAM TUM (45 ft. \times 2 ft) by ford.
- 1m. Passes between WAN LA (Shan-Tayok—20h.) and WAN PUNG (Shan-Tayok—20h.).
- 1m. 4f. Track L. to MONGKAW (through narrow gorge).
- 2m. Recrosses NAM TUM by bridge, and ford and passes L. of KAWNGLENG (Shan-Tayok 10h.).
- Crosses NAM IT LUK. Thence rises steeply, gradients $1/5$ in places; surface very rough and uneven. Track very narrow, up wooded North side of HLUK valley.
- 3m. 4f. Passes R. of MAN KAWN. Thence crosses saddle and descends steeply into NAM LI valley. Gradient $1/5$. Over rough boulders very bad for mules.
- 4m. Crosses NAM LI whence track turns R. and climbs steeply. Gradient $1/4$ — $1/5$. Track very narrow.
- 5m. Reaches top. Here a track L. to MONGKAW. Thence continues and descends steeply into NAM LIN valley.
- 6m. Crosses NAM LIN by covered bridge. Thence track very soft and narrow and continues up valley. Passes below MAN YIUK (Loila).

ROUTE D-72—concl'd.

- 7m. 4f. Reaches crest; thence track is good, hard and undulating to
- 8m. 4f. Passes burnt village of NAWNGLENG. Here track to PANGKA.
- 15m. **NAWNGLENG CAMP.**
C.G.—For 1 Bn.
Water—Plentiful.
Fuel—Obtainable.
Fodder—Grazing.
Supplies—Negligible. A few eggs and oranges, from surrounding villages.

ROUTE D-73.**PANGPAI—MONGKAW (MENKO).**

Length :—7m. 5f.

1 Stage.

*Epitome—**This report is only applicable to the dry season.*

In the first 2 miles there are some steep descents, and in some parts the track surface is very broken. But nowhere it is impassable for mules.

Stage 1.**PANGPAI—MONGKAW (MENKO).**

- 7m. 5f., Leaving camp the track runs downhill.
 4f. Passes a village; thence turns S.W. and descends fairly steeply.
- 1m. 6f. Track very broken; descends fairly steeply and after 220 yds. passes a village. Thence across paddy plain.
- 2m. 3f. Crosses NAM TUM (45 ft. x 2 ft.—no obstacle) and continues along stream.
- 2m. 5f. Passes old Buddhist temple.
- 3m. 6f. Passes between high, rocky cliffs. Thence continues through paddy fields.
- 5m. Track climbs gradually through small jungle.
- 6m. Descends steeply to paddy plain.
- 7m. 5f. **MONGKAW CAMP.**
C.G.—For 1 Bde. on slightly rising ground E. of river.
Water—Unlimited from NAM KAW (300 yds. distant).
Fuel—Obtainable from jungle $\frac{1}{2}$ m. N. of C.G.
Fodder—Grazing.
Supplies—Large quantities of paddy, rice, eggs, fish, and oranges obtainable from surrounding villages.

ROUTE D-74.

MAN HEK—YAWNGHOK.

Length :—12m.

2 Stages.

Epitome—

A good mule track. The whole way up to heavy traffic. Breadth varying from 4 yds. to 1 ft. Surface good and hard with patches of paving; rough boulders and in bad repair near MAN MAO. Gradients undulating gently for first 3 miles thence steep $1/8$ — $1/5$, in stage 1. Thence gentle and undulating except near the NAM TUM crossing and the approach to YAWNGHOK where $1/8$ — $1/6$.

C.G.—(a) For 2 Coys. in stage 1.

(b) For 2 Bns. in stage 2.

Water—Plentiful.

Fuel—Plentiful.

Fodder—Jungle grazing.

Supplies—(a) Nil in stage 1.

(b) Small quantities of eggs and oranges, otherwise negligible in stage 2.

Stage 1.

MAN HEK—HOMANG.

6m. 4f.

Leaving camp the route retraces itself for 2f. thence takes the turning to MONG TUM. Descends gently to the NAM TUM Valley and at—

6f.

Reaches end of jungle. Thence turns R.

1m. 2f.

Passes MONG TUM (Shan-Tayok; ruined; inhabitants living scattered in places and *kyarungs*). Thence continues through paddy fields. Track here narrow and rough in places, but up to heavy traffic.

1m. 6f.

Passes MAN MAT (Loila 10h.).

2m. 4f.

Passes MAN NA (Shan-Tayok, 30h.; friendly).

3m. 1f.

Fords small stream, thence rises: gradient $1/10$.

4m. 1f.

Crosses small valley and stream. Thence descends steeply, $1/6$, for 300 yds. into another valley. Crosses stream by fords and plank bridge and rises steeply for 6f. Thence follows crest for spur.

6m.

Pass HOMANG (N. group, Loila, 25h., friendly). Here road L. to S. group and YAWNGHOK. Thence track rises gently round N.W. end of small re-entrant and passes above S. group of HOMANG (Loila, 25h., friendly). Route gets narrower and surface softer as it approaches the crest of main ridge (watershed).

6m. 4f.

HOMANG CAMP.

C.G.—For 2 Coys. on steep slope of hill, 100 yds. above road.

Water—From small stream 2f. from camp. Plentiful.

Fuel—Plentiful from jungle.

Fodder—Jungle grazing.

Supplies—Nil.

ROUTE D-74—*contd.*

Stage 2. HOMAN CAMP—YAWNGHOK (YAWNGHO-RUK).

5m. 4f. Leaving camp track branches L. after 300 yds. The route to the crest keeps straight on to the watershed TUM PA and HTAK TING. Thence track winds gently down N. side of the valley—very good and wide.

4f. Road R. to PANG PANG (Wild Wa).

6f. Passes R. of HOMANG (S. Group). Thence continues to bottom of valley (1 ft. wide in paddy fields).

1m. 4f. Crosses NAM TUM by bamboo bridge (2 ft. wide) and ford (15 ft. \times 6 ins.). Thence rises steeply, $1/8$ — $1/5$, for 300 yds. Thence more gradually surface getting better and wider.

2m. 3f. Skirts large re-entrant.

2m. 6f. Rounds a wood covered spur.

3m. 2f. Passes MAN MAO (Loila, 60h., very friendly). Track in village very narrow and in bad repair. There is a gate at each end and a tunnel at W. end. Thence continues up side of valley.

4m. 4f. Becomes very steep straight up the side—gradient $1/6$.

5m. Passes YAWNGHOK (the road to MONG TUM keeps level along the side of the valley from pt. 4m. 4f.). The last $\frac{1}{4}$ mile to YAWNGHOK is heavily guarded and track enters village through a 20 yds. tunnel and gate. Reaches crest of ridge in village turns R. and leaves village by another tunnel. 100 yds. beyond this tunnel is another stockade across the road with a gate in the middle. From here a track L. to MOTLONG downhill. Track continues along ridge.

12m. YAWNGHOK CAMP.

C.G.—For 2 Bns. on R. of road in fields.

Water—From small stream below and E. of *C.G.*

Fuel—Plentiful from jungle.

Fodder—Grazing from fields and jungle.

Supplies—Negligible. Small quantities of eggs and oranges obtainable.

ROUTE D-75.

YAWNGHOK—CAMP NAMTSAI MONG.

Length :—10m. 2f.

2 Stages.

Epitome—

A good mule track up to heavy traffic, except in the middle of Stage 1 where track liable to crumble away in places and at the end of Stage 2 where for the last mile it becomes merely a track overgrown in many places. Mules can pass these patches with care. Breadth variable from 2 yds. to 6 ins. Some steep places in both stages. Gradients never more than $1/5$.

ROUTE D-75—contd.

C.G.—For 1 Bn. at each stage with slight clearing.

Water—Plentiful at each stage.

Fuel—Obtainable from jungle, some distance in both stages.

Fodder—Grazing obtainable.

Supplies—Negligible (a) small quantities of oranges and eggs in Stage 1. (b) Nil in Stage 2.

Stage 1.

YAWNGHOK—NAWNGLONG.

- 6m. Leaving C.G. the route retraces itself through YAWN-GHOK.
- 1m. Reaches E. gate (tunnel), thence descends gradually through jungle on S. side of ridge.
- 1m. 4f. Reaches crest of smaller spur (1—2 yds. wide; good surface). Thence steep descent for 200 yds. along crest of spur. Thence more gradually through jungle narrowing to 1 ft. in places.
- 2m. 4f. Passes MAN LUNG (Loila; 60h.; friendly; on crest with a tunnel at W end). 300 yds. before village road R. to MOT-LONG. Track turns R. in village continuing along spur.
- 3m. 2f. A high rocky crag on L. of road. Surface good except for a stretch of 20 yds. where road dips. Very rough and rocky.
- 3m. 6f. Rises steeply $1/8$ — $1/5$ to crest of spur.
- Passes MAN KA KAI (Loila; 30h.; friendly). Thence bears left and descends.
- 4m. 2f. Steep narrow descent. Surface bad, rough and crumbling. Bad for mules. Thence ascends steeply.
- 4m. 4f. Passes through a small pass, thence bears R. entering jungle and continues rising.
- 4m. 6f. Jungle finishes and track continues steeply through fields to top of pass at
- 5m. Track very narrow and crumbling for the last 300 yards. Thence undulates to steep ascent over end of spur. Surface good and wide.
- 5m. 4f. Passes NAWNGLONG (Loila; 50h.; friendly; surrounded by trees).
- 6m. **NAWNGLONG CAMP.**

C.G.—For 1 Bn. with light clearing on spur E. of village.

Water—Plentiful from small stream 200 yds. E. of C.G.

Fuel—Obtainable from distant jungle.

Fodder—Grazing obtainable.

Supplies—Negligible; small quantities of oranges and eggs obtainable.

Stage 2.

NAWNGLONG CAMP—NAM TSAI MONG.

- 4m. 2f. Leaving camp route continues along the ridge.
- 1m. Reaches a saddle, and cross roads where it turns R. and descends along S. side of ridge between NAM LEP and NAM LONG streams. (Gradual slope; good surface; 1 yd. to 2 yds. wide).

ROUTE D-75—concl'd.

- 2m. Passes R. of and below MAN KYA HKAM (Loila).
 2m. 4f. Passes between MAN KAWNG (Loila) left and MAN LONG (Loila) right. Thence steep descent round a re-entrant.
 3m. Crosses a stream by plank bridge and ford and ascends again. Road narrow and uneven.
 3m. 2f. Passes a saddle on the next ridge. Thence follows the crest of the ridge through jungle, only 1 ft. wide.
 4m. Very steep descent (gradient $1/5$).
 10m. 2f. **CAMP NAM TSAI MONG.**
C.G.—For 1 Bn. with clearing.
Water—From NAM LEP and NAM TSAI MONG $\frac{1}{4}$ mile below.
Fuel—From jungle near river.
Fodder—Grazing.
Supplies—Nil.

ROUTE D-76.**NAWNGLENG—LABA.**Length :—48m. $3\frac{1}{2}$ f.

7 Stages.

Epitome—

A good mule track throughout, through mountainous country with many steep gradients. Average of $1/4$ to $1/6$ with very steep places of $1/3$ in stages 4 and 6. Average breadth from 1 ft. to 2 yds. The surface in dry weather is normally hard but there are many bad patches, rough, uneven and crumbling, mostly when passing through fields and near river crossings. On the whole a very tiring route for mules, owing to the steepness of the gradients, but is quite passable for them. For the last $2\frac{1}{4}$ miles the country is gently undulating.

C.G.—Average for 1 Bn. throughout.*Water*—Plentiful throughout. Needs boiling in Stage 2.*Fuel*—Plentiful in all stages except in Stage 2 where scarce and in Stage 6 where large wood scarce, though small wood plentiful.*Fodder*—Jungle grazing in all stages except Stage 2 where scarce.*Supplies*—Nil; though very small quantities of paddy obtainable in Stages 5 and 7 from surrounding villages.**Stage 1.****NAWNGLENG—HPA KIO.**

7m. 2f.

Leaving C.G. route retraces itself to NAWNG LENG W. gate, turns R. and climbs steeply ($1/5$ — $1/4$).

6f.

Reaches crest and descends to a saddle.

ROUTE D-76—contd.

- 1m. Crosses another track at right angles; thence rises gently through a small valley. Narrow, but could be easily widened as the country is grass covered. Surface hard and even. On reaching the top of the ridge the track winds across it.
- 1m. 2f. Skirts round a small valley. Thence descends into and ascends steeply out of another valley.
- 2m. Reaches saddle—here a big road L. (Surface less firm; track still narrow but good). Thence turns R. ascending wooden spur.
- 2m. 2f. Descends to end of spur and turns L.
- 2m. 4f. Joins. NAWNGLENG—PANGKAO track and follows it for 200 yds.
- 3m. Passes below and L. of NAM HSAK (ruined) (1—2 yds. wide; good, hard surface). Thence turns L and descends steeply ($1/5$ to $1/4$) into valley. Crosses a stream (road narrow, rough and uneven) and ascends steeply ($1/4$) bearing R. along wooded spur.
- 3m. 4f. Reaches crest. Thence undulates along spur.
- 3m. 6f. Joins main ridge; the last 200 yds. narrow and steep. Thence crosses main ridge through a pass and descends along a spur.
- 4m. 6f. Passes below a ruined village and bears R.
- 5m. Crosses main route to AISHWAI. (Track fair, 1 yd. wide). Thence ascends to top of spur and follows crest.
- 5m. 4f. Descends steeply winding down to valley.
- 6m. 4f. Crosses NAM HSI by plank bridge (5 ft. wide. Fit for mules). Thence slants up far side steeply.
- 7m. Passes lower portion of Old HPA KIO (track uneven, and boulder paved). Thence descends steeply L. (track narrow and uneven).
- 7m. 2f. **HPA KIO CAMP.**
C.G.—Several areas for 1 Coy. near the NAM HSI in paddy fields when not flooded.
Water—Plentiful from NAM HSI.
Fuel—From patches of jungle in vicinity.
Fodder—Jungle grazing.
Supplies—Nil.

Stage 2.

HPA KIO—HOMONG.

- 7m. 4f. Leaving C.G. the track recrosses the NAM HSI by stone bridge (1 yd. wide), thence bears L. and slants very steeply up valley side (gradient $1/4$ — $1/5$).
- 2f. Reaches crest (surface uneven but hard; 1 yd. wide). Thence bears R. and continues rising bearing L.
- 4f. Reaches crest at a saddle (surface bad and crumbling; narrow but passable to mules). Here (a) a track R; (b) a track L. (main AIHSOI route) (thereafter track surface good— $2\frac{1}{2}$ yds. wide). Thence descends into NAM WA valley.
- 2m. 2f. Passes MAN KIU (Loila; 100h.; friendly; surrounded by trees). On each side of village surface uneven and rocky; through thick scrub jungle. Continues winding down to
- 3m.

ROUTE D-76—*contd.*

valley over open grassy slopes. (Track only 2 ft. wide, but good hard surface).

4m. 4f. Crosses NAM WA (60 ft. \times 1 ft., slow current) by ford. Here C.G. for 1 Bn. Thence climbs gently at first and then steeply ($1/8$ — $1/6$).

6m. Track to HLA MONG.

6m. 2f. Reaches crest; thence follows crest of ridge bearing L. (Surface very good—could easily be widened). Thence rises gently to highest point where another spur joins from the N.

7m. Passes HOMONG (AIHSOI; 100h.; friendly). The S. half of village is called HOMONG.

14m. 6f. **HOMONG.**

C.G.—(a) For 1 Bn. at NAM WA crossing.

(b) For 1 Bn. 500 yds. N.E. of HOMONG in small valley. From NAM WA for (a).

Water—From small spring at head of valley for (b) Water needs boiling.

Fuel, and Fodder—Scarce as country is very bare with only small patches of scrub.

Supplies—Nil.

Stage 3.

HOMONG—LOI AIPYING.

8m. 4f. Leaving camp the track descends from the crest of a small ridge to a valley 100 yds. E. of village a road R. to THA HSIA.

2m. Crosses two streams by fords (on the upper slopes the surface is good, hard and wide; lower down it is rough, steep and loose; $1/4$ — $1/5$). Thence rises very steeply and after 100 yds. a track R. to HOMONG VAN NO. (Track hard and wide but very steep).

2m. 2f. The track turns sharp R. (track to HOMONG VAN TAO straight on) and curves round the S. side of ridge rising gently (track narrow and little used but fit for mules).

2m. 4f. Reaches the crest and follows it till at

3m. 2f. Reaches a saddle. Here track from HOMONG VAN TAO rejoins the route. Thence bears L. and descends to valley.

4m. Crosses NAM KAWNG HUN, thence climbs passing below KAWNG HUN (AIHSOI). There is a good road to L., W. of village.

4m. 2f. Very steep descent and climb (gradient $1/5$ — $1/4$ —narrow) crossing an irrigation channel half way up E. side. 100 yds. beyond village the track reaches the crest and bears R. (surface very good).

5m. Reaches saddle and forks L. round N. side of ridge. (Another track forks R. round S. side of ridge); thence slants up ridge.

6m. Reaches crest (surface good 1 ft.—2 ft. wide) and continues along the crest (good hard but narrow).

6m. 6f. Track forks (a) straight on over a pass to N. of LOI AIPYING; (b) turns back down into valley and crosses a small

ROUTE D-76—contd.

stream amongst woods, then bears L. and climbs through another pass S. of LOI AIPYING.

23m. 2f.

LOI AIPYING CAMP.

C.G.—Immediately S. of, and below LOI AIPYING in the Pass.

Water—Plentiful from stream 100 yds. S. of site.

Fuel—Plentiful from jungle $\frac{1}{4}$ m. S. and from *taungyas* in vicinity.

Fodder—Jungle grazing.

Supplies—Nil.

Stage 4.**LOI AIPYING CAMP—PANGLAP.**

7m. 4f.

Leaving camp track descends R. to a small saddle at

4f.

Here a track branches back and then climbs and at

6f.

Reaches crest, branches R. and descends to a valley.

1m. 4f.

A big road to L.

2m.

A big road to L. Crosses NAM PANG NAI by plank ridge (1 yd. wide). (Surface uneven but wide.) Thence climbs steeply to N. gate of AIPYING (250h.); AIHSOI; friendly, a tunnel 40 yds. long at W. gate. Situated near the bottom of the valley on S. side. Thence ascends steeply bearing R. in village.

2m. 4f.

Emerges from W. gate. (Surface good except for patches of stone paving on each side of village), and continues descending gently (another route branches L. up the side of the valley).

3m.

A big good road E. down to THA HSIU. Track bears L. round W. end of ridge descending very steeply; surface uneven and narrow.

4m.

Crosses NAM RAM HSEMAW (30 ft. \times 10 ins.) by narrow plank bridge and ford. Thence climbs a spur (surface good and hard; very steep).

4m. 4f.

Reaches crest and passes LOK NAP (Wa; h-h; 100h.; friendly; surrounded by trees; a skull grove just outside N. gate, tunnelled). At crest a big, good road branches R. Track continues to rise round end of small valley.

5m. 4f.

Reaches the crest of next ridge. (Surface good and wide.) Thence descends steeply.

6m.

Crosses a stream and climbs again ($\frac{1}{4}$ — $\frac{1}{5}$), surface good and hard but narrow.

6m. 6f.

Reaches crest of next big ridge, thence descends on far side.

7m.

Crosses another track at right angles.

30m. 6f.

PANGLAP CAMP (PANGLAP is 1 mile further down the hill from *C.G.*).

C.G.—For 1 Bn. in fields.

Water—From stream on each side of *C.G.*

Fuel—From jungle.

Fodder—Jungle grazing.

Supplies—Nil.

ROUTE D-76—contd.

Stage 5.

PANGLAP CAMP—YAWNG NO.

6m. 4f.

Leaving C.G. the track retraces itself for $\frac{1}{2}$ mile to cross tracks, and then follows the crest of the ridge.

1m.

Crosses two small spurs (surface good and hard but narrow 1 ft.—1 yd.). Thence descends bearing R. and then curving L. to a small saddle, here route from PANGLAP joins on L.

1m. 6f.

A track R. thence descends down spur.

3m. 4f.

Reaches a saddle—here (a) road L. to MAN LOM (Wa, 200h.—friendly), (b) road R. to village (Wa, 200h., friendly). Thence follows ridge through thick jungle for $\frac{1}{2}$ mile.

4m.

Emerges above MAN LUM and descends steeply to R. of MUD FORT (100 yds. \times 100 yds.). Thence (surface—rough, loose and uneven—narrow).

4m. 2f.

Crosses NAM WA (21 ft.—24 ft. \times 1 ft. slow current—milky coloured water) by ford, here a road L. to NAM LUM and also a road L. to CHAWK DUM. Thence a steep ascent (surface bad and narrow). After 2f. the slope eases and improves to 2 ft.—hard surface. Thence along the crest of the spur through fields.

37m. 2f.

YAWNG NO CAMP.

C.G.—For 1 Bn. on R. of track in fields.

Water—From small stream S. and N.W.

Fuel—From jungle on slopes W.

Fodder—Jungle grazing.

Supplies—Negligible—small quantities of paddy obtainable.

Stage 6.

YAWNG NO CAMP—CHAWK DUM CAMP.

4m. 4f.

Leaving camp the track continues up the ridge (narrow but good and hard).

4f.

Turns back L. (road to MAN HAI follows on up the ridge) and slants down E. side of ridge (narrow—1 ft. but hard—gentle gradient).

1m.

Track turns R. and goes straight down crest of small spur for 300 yds.

1m. 6f.

(Narrow and steep $\frac{1}{6}$ — $\frac{1}{8}$), thence turns R. and slants down into small valley (the road to YAWNG NO straight on), thence curves L. round end of NAMWA valley crossing six small valleys and streams on the way (all head-water of the NAM WA) then ascends steeply ($\frac{1}{3}$ — $\frac{1}{6}$ —very narrow 1 ft.—2 ft. but passable to mules slowly).

3m. 6f.

Crosses irrigation channel (half way up) and 100 yds. further on (a) big road L. to YAWNG NO, (b) a small road R. to top of main wooded ridge. Thence track is excellent (2 yds.—3 yds. wide—good surface).

4m.

Passes CHAWK DUM (Wa—50h.—friendly—h-h).

NOTE.—(a) The narrow gate of CHAWK DUM can be avoided by leaving the main track 400 yds. before entering village and cutting straight up to the top of the ridge—where the crest road is joined. Main road rejoined again at 5m.

(b) The track reported on is NOT the main one but goes through YAWNG NO.

ROUTE D-76—contd.

Thence the track ascends steeply and at

41m. 6f.

CHAWK DUM CAMP.

C.G.—For 1 Bn. on grassy slope E. of crest $\frac{1}{2}$ mile above village.

Water—Good. From a cutting in the ridge 150 yds. S.W. of *C.G.*

Fuel—Large wood scarce—but small wood plentiful from scrub jungle on the crest.

Fodder—Jungle grazing.

Supplies—Negligible—small quantities of paddy and rice from the nearby villages (Chinese coins or articles of barter necessary, pice *Not* taken).

Stage 7.**CHAWK DUM CAMP—LABA CAMP.**

6m. 5½f.

From the camp the track is narrow but hard and follows the crest through scrub jungle.

4f.

Reaches a small saddle, and here the main track from CHAWK DUM reaches the crest and follows along it bearing L. At saddle the track bears to R. of ridge descending steeply in places to the S. side and at

1m.

Passes R. of CHAWK DUM MAN MAO (Wa—h—h—30h. friendly). With a tunnel at S. entrance. Thence descends more steeply ($\frac{1}{5}$ — $\frac{1}{6}$) at 100 yds. beyond village a track on L. up the valley from BA WI.

1m. 4f.

The track turns L. round E. end of ridge and descends to a valley.

1m. 6f.

Crosses NAM DUM by ford (here track narrow surface bad and uneven) thence slants steeply up the far side ($\frac{1}{4}$ — $\frac{1}{6}$) through thick jungle for 200 yds., thence alternate scrub and open fields.

2m.

Crosses a small valley and stream and ascends (very steep $\frac{1}{4}$ — $\frac{1}{6}$ surface bad).

2m. 2f.

Crosses another good track.

2m. 4f.

Reaches top of ridge and passes BA WI (Lahu—Christian—30h.—friendly), thence surface dusty good—1 yd. wide. Descends zig-zagging steeply down E. side of ridge.

2m.

Crosses a stream in the valley by bamboo bridge and ford. Thence rises steeply and at

4m.

Reaches crest of long ridge (at bottom very narrow uneven and steep, $\frac{1}{4}$ — $\frac{1}{5}$, but near the crest 2 ft.—3 ft. wide hard surface and gentle slope).

The crest track passes S. of LABA, turns R. and follows along crest rising gently—(3 yds.—4 yds. wide—hard even surface) 100 yds. beyond the village a good track joins on L.

4m. 4f.

Two tracks (a) to L. (b) R. over crest.

5m. 4f.

The track leaves the crest bearing R. along the S. side (a small track follows along the crest). Level for 6f. and then descends.

6m. 4f.

A deep valley cuts through the ridge.

ROUTE D-76—concl'd.

48m. 3½f.

LABA CAMP 300 yds. N.E. of road on N.W. side of valley.

C.G.—For 1 Bn. on sloping field.

Water—From stream at bottom of the valley S.E.

Fuel—Plentiful from jungle in vicinity.

Fodder—Jungle grazing.

Supplies—Negligible—small quantities of paddy from LABA.

ROUTE D-77.

LABA—KAISHAN.

Length :—32m. 7f.

6 Stages.

Epitome—

A mule track with surface in general, good and hard, though bad and uneven in places and crumbling and loose near the river crossing in Stage 3. There are very steep stretches in each stage, with gradients varying from 1/3—1/6. The route is a tiring and difficult one for mules in general though fit for pack tpt. the whole way. Mules have to move very slowly. Average breadth 1 ft.—1 yd. though there are wider stretches. In the last two stages the route is a little easier.

C.G.—For 1 Bn. in all stages except Stage 1 where for 2 Pls. only and Stage 3 where for 1 Coy. only.

Water—Plentiful—throughout from local streams. (Good water.)

Fuel—Scarce in all stages except 1 and 6 where plentiful.

Fodder—Jungle grazing—poor throughout.

Supplies—Nil.

NOTE.—At LABA this route joins Route No. D-76.

At KAISHAN this route joins Route No. D-78.

Stage 1.

LABA—TAIFU.

6m. 4f.

Leaving camp the route continues S., crosses a steep sided valley and zigzags to

2f.

Reaches top of LABA ridge and then descends along the spur S.

1m. 4f.

A track L. to HSIO LABA.

Passes between the two halves of KAWNG KE (Myen—50h. on both sides of spur—friendly). (Track excellent—good surface—1 yd.—2 yds. wide.) Here track forks (a) R. to AIKAL.

(b) Down spur to PANGMAO. At S. end of village track forks L. and becomes narrow with bad crumbling surface, descends to a valley (1/3—1/6).

2m.

Crosses a stream. Thence ascends on far side more gently.

2m. 4f.

Passes *C.G.* for 2 Bns. in grass fields.

ROUTE D-77—contd.

- 3m. Track bears L.
 4m. Reaches crest of main spur and passes N. of NA PAW (Myen, 50h., friendly). Here (a) the route to SAKU FA and LIUDE carries straight on E. (b) Another route descends S. along ridge into main valley of NAM LONG. The track at the village turns L. and follows along the crest.
 5m. The track leaves the crest and descends very steeply down W. side of NAM NAGA valley.
 5m. 2f. Turns L. and continues along the side to
 5m. 4f. Passes a small C.G. for 2 plns.
 6m. Passes TAIFU (Myen, 50h., friendly, surrounded by trees). Thence continues descending to the bottom of the valley. Track surface very bad and narrow.

 6m. 4f. **TAIFU CAMP.**
C.G.—For 2 plns. in paddy fields.
Water—Plentiful from NAM NAGA.
Fuel—Plentiful from jungle.
Fodder—Jungle grazing.
Supplies—Nil.

Stage 2.**TAIFU CAMP—LIUDE.**

- 5m. From the NAM NAGA ford the track rises very steeply.
 2f. Passes S. half of HKALE (20h. Myen, friendly) and joins the track running along the side of the valley, and continues along it, the track is here 1 yd. wide. Crosses many small valleys joining the main one.
 1m. Passes SAWKA (Myen, 30h., friendly).
 1m. 4f. A track R. to NA PAW.
 2m. Passes SAKUFA (Upper) (Myen, 50h., friendly).
 3m. Passes SAKKU (Lower) (Myen, 50h., friendly). As far as this the route is good and hard but uneven and rough near stream crossings; gradients are steep.
 4m. Passes LIUDE. Thence track bears L. and descends into valley.
 (The main track continues S.E. to PANGTAWN* and ANG KANG).

 11m 4f. **LIUDE CAMP.**
C.G.—For 2 Bns. on sloping grass fields in centre of valley.
Water—Plentiful (a) from small stream N. of C.G., (b) from an irrigation channel S. of C.G.
Fuel—Scarce—From jungle $\frac{1}{4}$ m. N.
Fodder—Grazing.
Supplies—Nil.

Stage 3.**LIUDE CAMP—PANG KAWK TAO CAMP.**

- 4m. Leaving C.G. the route bears R. and continues so for 1 mile.
 1m. From 1m.—2m. there is a good large camp site on the grassy slope above the NAM LONG. The route crosses several small spurs and ascends.

ROUTE D-77—contd.

m. 4f.

Reaches crest of a wooded ridge and passes PANGTAWN (50h., Myen, friendly) and also crosses the road from LIUDE. (The track is narrow—1 ft.—2 ft.—surface rough loose and uneven by stream crossings—gradients gentle except at stream crossings where steep $1/4$ — $1/6$.) From PANGTAWN the route winds across open fields down E. Side of NAM LONG valley.

3m.

Between 3m. and 4m. there is a good C.G. on the grassy slopes above the NAM LONG.

3m. 6f.

Crosses NAM LONG (60 ft. \times 6 ins. 2 ft.—slow current) by ford.

15m. 4f.

PANG KAWK TAO CAMP.

C.G.—For 1 Coy. in paddy fields R. of road.

Water—From stream 200 yds. S. and below.

Fuel—Scarce—from jungle 400 yds. S.

Fodder—Jungle grazing.

Supplies—Negligible—small quantities of rice and paddy obtainable.

Stage 4.**PANG KAWK TAO CAMP—HAPUMA CAMP.**

3m. 4f.

Leaving C.G. the route is narrow and very steep for 300 yds. where it joins the road from PANG KAWK NO and follows it S.E. for 200 yds., then turns R. and climbs very steeply up a spur (the other track continues S.E. along side of valley).

6f.

Passes PANG KAWK TAO (Myen, 50h.). Track 1 yd.—2 yds. wide. Good hard surface—but very steep ($1/3$ — $1/5$): here route crosses a road from PANG KAWK NO—HAPUMA (main) and continues up spur and at Crosses another road from PANG KAWK NO—HAPUMA (main).

1m.

1m. 4f.

Reaches top of ridge (narrow—steep and rough, and poor surface). Thence bears R. starting down valley.

2m. 4f.

Reaches bottom and continues through cultivated fields, thence turns L. and follows along valley.

19m.

HAPUMA CAMP.

C.G.—For 1 Bn. on R. of road on a sloping field in a small re-entrant.

Water—From a stream W. and N. of C.G.

Fuel—Scarce from patches of jungle.

Fodder—Jungle grazing.

Supplies—Nil.

Stage 5.**HAPUMA CAMP—CHADI CAMP.**

8m. 7f.

Leaving C.G. the route bears L. and then R. and rises to top of ridge and descends along ridge above the NAM LONG (road narrow but widens after 4f.).

1m.

Passes W. of Upper HAPUMA (Lahu, 15h.) continues down ridge.

ROUTE D-77—contd.

- 1m. 4f. Passes HAPUMA (here other roads branch L. down E. side of NAM LONG valley) road uneven but good and wide—2 yds.; thence descends steeply along crest of ridge.
- 2m. 2f. Turns R. at a saddle and crosses the valley and climbs steeply.
- 2m. 4f. Passes over small saddle (here main road straight on S.) (varies from 1 ft.—1 yd.—good surface). Thence continues descent to valley.
- 4m. Crosses a stream at bottom (here a more direct route joins from camp which descends a spur through PAPI; steep—fit for mules). Thence ascends steeply (1/3—1/5).
- 5m. Crosses ridge through a pass (N. of and below lofty—rocky peak) (steep but wide with good surface—1 yd.—1½ yds. main road to NAM PING), thence descends and turns R.
- 6m. Passes S. of and below TAYE (Lahu, 50h., friendly) and continues along the lower slopes of the valley (N. side) crossing several small re-entrants (narrow 1 ft.—2 ft.) very steep in places.
- 7m. Crosses paddy fields (bad for mules).
- 8m. Crosses streams and climbs over spur (very steep—1/4—1/6).
- 8m. 4f. Reaches crest and descends gently.
- 8m. 6f. Branches L. along YAGAW road and follows down the valley. (Here route to CHADI straight on for 6 furlongs.)

27m. 7f.

CHADI CAMP.*C.G.*—For 2 Bns. on flat grass field S.E. of road junction.*Water*—From stream near *C.G.**Fuel*—Very scarce—small quantities obtainable from jungle patches.*Fodder*—Jungle grazing.*Supplies*—Nil.**Stage 6.****CHADI CAMP—KAISHAN.**

5m.

Leaving *C.G.* the route crosses the stream and climbs steeply (1/5—1/6) along spur at bears R. along W. side.

1m. 4f.

Passes YAGAW (Lahu, 50h., friendly) (at first narrow and very steep—near village widens but less even). (At S.W. end of YAGAW a road bears R. up spur to top of main watershed ridge.) Thence route bears L. down along spur and slants across valley (gentle slope—narrow—good.)

2m.

Climbs steeply through a pass on S.W. side of valley and debouches into larger valley on further side.

2m. 4f.

Joins road from HAGOMA (on left) and continues up the valley.

3m.

Bears L. and continues (narrow—1 ft.—2 ft.—hard with many steep and uneven stretches).

4m.

Reaches head of valley and bears R. (another road bears L. through jungle and rocky hills to KAISHAN 2 miles; and from village to Basin Camp another 1 mile). After

ROUTE D-77—concl'd.

500 yds. route branches L. crossing open grassy stretches then through thick jungle (narrow but good—undulating) enters Basin at N. side.

32m. 7f.

KAISHAN BASIN CAMP.

C.G.—For 1 Bn. on grassy ridge W. side of Basin.

Water—From two good streams N. and S. of camp.

Fuel—Plentiful from jungle 300 yds. distant.

Fodder—Grazing.

Supplies—Nil.

ROUTE D-78.

KAISHAN—ANGKANG.

Length :—15m.

1 Stage.

Epitome—

A road fit for mules the whole way—in general very good, surface mainly hard but many uneven stretches. A very bad stretch crossing the valley between 6m. and 7m. Breadth varying from 3 yds.—1 ft.—Crosses four steep sided valleys (1/4—1/6) remainder steep or undulating.

Stage 1.**KAISHAN—ANGKANG CAMP.**

15m.

Leaving *C.G.* the route issues from N.E. end of the Basin and follows round S. end of the valley and ascends.

2m.

Reaches the crest of the ridge. Thence follows the crest (good—hard—gentle slopes, $\frac{1}{2}$ yd. wide).

2m. 4f.

A road branches L. to PAPI and route bears R. and descends gently at first then steeply (1/5—1/6).

4m.

Passes ~~L.~~ of NAM PING (S. half of village—100h.—Lahu—in valley at foot of high rocky peak) and continues up valley.

4m. 2f.

Main road to PAPI branches L.

4m. 4f.

Route bears R. passing R. of NAMPING (N. half 50h.—Chinese) and follows down a small valley (good and hard). Thence debouches into large valley—through rocks, wide loads have to be lifted, in one place. Thence bears L. along side of the valley, narrow but hard and good.

5m. 4f.

Descends steeply down valley side to bottom where there is *C.G.* for 2 plns.

6m. 4f.

Crosses a stream by ford and ascends the far side very steeply 1/4—1/6; on the lower slopes the road is bad, but fit for mules.

7m.

Passes a small village and bears R. along valley side.

7m. 2f.

Reaches crest and bears L. along a grassy slope.

8m.

Passes another small village (narrow, but good and hard). Thence steep descent.

ROUTE D-78—*contd.*

- 9m. Crosses a stream at the bottom where *C.G.* for 2 plns.; thence climbs very steeply ($1/4-1/6$).
- 9m. 4f. Joins a big road on R. at crest. Thence bears L. alongside of valley.
- 10m. Passes another village (road to PAPI and HAPUMA—straight on). Here route turns R. and descends steeply.
- 10m. 6f. Crosses a stream at bottom of valley where *C.G.* for 2 plns. and climbs again (good and hard).
- 11m. 2f. Crosses next ridge and descends steeply into NAM LONG valley—(Road narrow but good) where *C.G.* for 1 Coy.
- 12m. Crosses NAM LONG (60 ft. \times 1 ft., 3—4 m.p.h. current) and climbs steeply ($1/4-1/5$).
- 14m. Passes a village where the main road to LIUDE joins the track.
- 14m. 4f. *C.G.* for 2 plns. or 1 Coy. with clearing.
- 15m. Reaches crest. Thence excellent road along crest of spur passing above ANGKANG at 16m. (Chinese 50h., friendly.)

 15m.

ANGKANG CAMP.*C.G.*—For 2 plns. or 1 Coy. with clearing.*Water*—From small stream—100 yds. N.E.*Fuel*—From jungle.*Fodder*—Jungle grazing.*Supplies*—Negligible—large quantities of eggs and small paddy from ANGKANG.

ROUTE D-79.

ANGKANG—AKA.

Length :—34m.

2 Stages.

Epitome—

A very good road, fit for mules the whole way. A good hard and even surface with one or two bad patches. Average breadth varying from 1 yd.—3 yds. There are steep stretches in both stages with gradients ($1/5-1/6$). Remainder is over fairly gently undulating ground.

C.G.—An average of 1 Bn. throughout.*Water*—From streams in the vicinity of *C.G.s.**Fuel*—Scarce in Stage 1. Obtainable remaining stages.*Fodder*—Grazing.*Supplies*—Nil.

NOTE.—At ANGKANG this route joins route D-78.

At CHENGMAO this route joins routes D-80, D-82, D-83.

ROUTE D-79—*contd.*

Stage 1.

ANGKANG—MUNAI.

NOTE.—There is a possible intermediate C.G. dividing this long march into two stages at HKUPUCHAI at 10 miles 4 furlongs where possible C.G. in open grass fields with water supply, at the least, from village resources.

- 21m. Leaving C.G. the road follows along W. side of crest and after 500 yds. the main road from MONG NYIM joins on left from over the crest.
- 2m. Route continues level; rounds a spur.
- 2m. 4f. Passes FUYONG (Chinese, 100h., friendly, amongst trees at head of valley on W. side of ridge). Crosses small streams at every re-entrant.
- 3m. 4f. Rounds a larger spur.
- 4m. Very steep descent into a valley.
- 6m. Crosses stream by bridge and bears R. Thence climbs over small ridge into NAM LONG valley. Thence level through paddy fields for 500 yds. and then climbs.
- 7m. 4f. Reaches crest and bears R. round W. side of ridge climbing 1/2 mile. Thence very steep descent bearing L.
- 8m. 4f. Recrosses NAM LONG (75 yds. \times 3 ft.—4 m.p.h. current) sides of valley being wooded and very steep. Thence climbs very steeply (1/4—1/6) to crest of wooded ridge and continues along the crest for 1/2 mile. Passes above and L. of a small village.
- 10m. Reaches crest again and continues along it.
- 10m. 4f. Passes R. of and above HKUPUCHAI (Chinese—50h.). Here thick woods end and open grass fields or scrub jungle commence. (Also possible C.G. to end first stage.) Thence continues along ridge.
- 14m. 4f. Crosses a shallow valley.
- 15m. Passes small Chinese village. Thence climbs through a gap in the ridge on far side of valley and continues winding along ridge.
- 16m. 4f. Turns L. and follows the crest of another ridge.
- 18m. 4f. Road bears R. and descends side of ridge. (Road to LOITAN SHAN straight on.)
- 18m. 6f. Joins main road from LOITAN SHAN—MONGLEM and follows along it.
- 19m. A loop road bears R. then curves L. following the foot of a rocky cliff for 1 1/2 m. then bears L. across plain and rejoins at MUNAI. The route descends into valley of headwaters of NAM LAM through open rolling grass lands straight to MUNAI (Chinese, 200h., friendly). The road is excellent the whole way with a well kept surface and wide with several steep places. A road to LAOCHANG branches back R. from loop road 1/4 m. N. of MUNAI.
- 21m. **MUNAI**—(Chinese, 200h., friendly).
 C.G.—For 1 Bn. alongside stream N. of MUNAI.
 Water—From stream.
 Fuel—Very scarce.
 Fodder—Grazing.
 Supplies—Nil.

ROUTE D-79—concl'd.

Stage 2.

MUNAI-AKA.

- 13m. Leaving C. G. the road continues S.W. crossing several small ridges.
- 1m. Descends along spur to cross a valley—wide and rounded. No water. Climbs steeply up far side.
- 2m. 4f. Passes over ridge through small rocky pass at head of valley. (Road to pass excellent, but in pass uneven with stone paving.) Thence steep descent on far side down a narrow, rocky valley.
- 3m. Crosses a larger valley and climbs steeply up spur on far side.
- 3m. 2f. Crosses a small stream (first water since MUNAI). The country around consists of high rocky peaks with narrow waterless valleys in between.
- 3m. 4f. Reaches another small saddle. Thence bears R. along N. side of valley keeping level.
- 4m. 2f. Bears R. round end of spur and follows N. E. side of valley.
- 5m. Steep descent bearing L. Crosses a valley and stream and climbs steeply on far side (1/5—1/6). (Road very good—hard and wide.)
- 6m. Crosses a ridge, then steep descent into, and ascent out of another valley.
- 7m. 2f. Reaches crest here 3 roads branch (a) L. along spur S.E. (b) L. down into valley S. (c) R. along spur N. The Route bears R.—(N.W.) alongside of valley and after 200 yds. passes MAN TUM (chief group, 100h. Chinese friendly, amongst trees) on W. side of crest. Thence follows level along N. side of valley.
- 9m. Reaches crest of spur on far side—here branches L. down along crest of spur while big road to MONGHSAW descends into valley on far side bearing L. follows W. side. Also a road to LAOCHANG (8½m.) branches R. crossing several valleys (road good for mules but narrow, uneven and in places surface hard). The route follows crest of spur.
- 12m. Bears R. and descends steeply along spur to valley.
- 12m. Crosses a big road from MONGHSAW—FUFANG.
- 34m. **AKA** (3 groups of 50h. each, Chinese, friendly, ½m. apart).
 C.G.—For 1 Bn. in valley on paddy fields.
 Water—Plentiful from stream.
 Fuel—Limited from jungle 300 yds. from camp.
 Fodder—Jungle grazing.
 Supplies—Nil.

(NOTE.—There are several places in the last 3m. for 1 Coy. but these are very dirty as they have been used by the convoy for years.)

ROUTE D-80.**CHENGMAO—MONGHSAW.**

Length:—14m.

2 Stages

Epitome:—

A good road the whole way. Fit for mule tpt. Surface rough and uneven for the first 4 miles in Stage 1, and in places in Stage 2. Remainder good and hard. Breadth varies from 1 ft. to 3 yds. Gradients very steep in places, in each stage varying from $1/5$ — $1/8$.

C.G.—(a) For 2 Coys. in Stage 1.

(b) For 1 Bn. in Stage 2.

Water—Sufficient in each stage.

Fuel—Plentiful from jungle in each stage.

Fodder—Limited in Stage 1. Plentiful grazing in Stage

2. *Supplies*—Nil in Stage 1. Negligible—some paddy and eggs in Stage 2.

NOTE.—At CHENGMAO this route joins routes D-79, D-82, D-83.
At MONGHSAW this route joins routes D-81 and D-85.

Stage 1.**CHENGMAO—HPAKKAT.**

9m.

Leaving camp the route joins the main AKACHENG-MAO road turns R. and passes through thick jungle.

6f.

Enters a flat bottomed valley and bears R. following up the valley (paddy fields $\frac{1}{2}$ m. wide).

1m. 2f.

Crosses stream (15 ft. wide) by ford.

1m. 4f.

Enters jungle (road good but uneven, hard and narrow 1 ft.—2 ft.). Thence bears L. winding through thick jungle in small valley and along spurs.

3m. 4f.

Bears R. and rises very steeply $1/5$ — $1/6$.

4m.

Reaches crest and continues along W. side of ridge for $\frac{1}{2}$ m. A good road from L. after 300 yds.

4m. 4f.

Bears L. and descends gently along the crest of col. joining two ridges (road good and wide—1 yd.— $1\frac{1}{2}$ yds.).

4m. 6f.

Climbs gently still on crest of col.

5m. 4f.

Passes S. of and above a small village (20h. Lahu). Thence bears R. winding up along spur through scrub jungle.

6m. 4f.

A good road joins from S. (good and wide 2 yds.—3 yds.). Thence follows up the spur N. to a pt. where 3 ridges meet (the last $\frac{1}{4}$ m. steep— $1/6$ — $1/7$).

7m.

Passes C.G. for 1 Bn. to R. and below, 300 yds. from road in paddy fields.

Water—From stream.

Fuel—Plentiful.

Fodder—Good grazing.

Supplies—Nil.

7m. 2f.

Road L. to KAISHAN (30h.—Lahu).

7m. 4f.

Reaches crest thence descends to saddle on far side bearing R. round hill 6011 while MONGHSAW road bears

ROUTE D-80—*contd.*

to L. of the hill. Descends along a spur for $\frac{1}{2}$ m. to cross roads, turns L. and descends again. At cross roads (a) one road continues along spur; (b) one road bears R. straight down ridge side.

9m.

HPAKKAT (3 groups each 50h. Lahu, friendly).

C.G.—For 2 Coys. at S. edge of village in paddy fields.

Water—From small spring 50 yds. from camp. (2–3 gallons per minute, the only water near at hand).

Fuel—Plentiful from jungle.

Fodder—Jungle grazing.

Supplies—Nil.

Stage 2.

HPAKKAT—MONGHSAW.

5m.

The road retraces itself to the road junction S. of hill 6011 and circles round foot on W. side. Thence follows down along spur N. W. (road good, hard but narrow—1 ft. —1yd.).

2m.

Road to HPAKKAI (50h. Wa; friendly; 1m. distant) down along crest of another spur. The route continues steeply down crest of spur.

2m. 4f.

Bears R. and road from HPAKKAI joins on L.

3m. 4f.

Road debouches into NAM LANG valley (level paddy fields). Crosses streams and follows edge of jungle on E. side.

14m.

MONGHSAW (3 groups each 100h.; Shan; friendly). At village on R. the NAM LANG joins the NAM HSAW and flows N. under the name of NAM HSAW. The road crosses the NAM HSAW by wooden covered bridge outside S. gate.

C.G.—Unlimited in valley (the whole length flat paddy fields).

Water—Plentiful from NAM LANG and inflowing streams.

Fuel—Unlimited from jungle at valley sides.

Fodder—Grazing in paddy fields and jungle.

Supplies—Negligible. Small quantities of paddy and eggs from the village. Small game in the jungle.

ROUTE D-81.

MONGHSAW—PANGLONG.

Length :—19m. 7f.

3 Stages.

Epitome—

A good road with several bad places, very tiring for mules in Stages 1 and 3 owing to steepness of the gradients. Fit for mules only with difficulty in Stage 2, being very narrow and steep with many bad places. Gradients varying

ROUTE D-81—contd.

from $1/5$ — $1/8$ with long stretches of $1/4$ in Stage 2. Breadth varying from 6 ins. in some places in Stage 2 to 1 yd. and 2 yds. Surface, except in bad stretches, generally hard and good though uneven at times.

C.Gs.—For average of 2 plns. at all stages though there are bigger spaces *en route*.

Water—Sufficient in Stages 1 and 2. Possibly available in Stage 3.

Fuel—(a) Scarce in Stage 1.

(b) Plentiful in Stage 2.

(c) Limited in Stage 3.

Fodder—Jungle grazing only.

Supplies—Nil.

NOTE.—At MONGHSAW this route joins routes D-80 and 85.
At PANGLONG this route joins route D-82.

Stage 1.**MONGHSAW—HO NAWNG.**

4m. 5f.

The route bears L. in village and emerges by the W. gate. Crosses the NAM HSAW by a small bridge and bears R. from 500 yds. along valley. Here *C.G.* for 2 Bns. in valley.

4f.

Crosses NAM GWE (300 yds. before it joins NAM HSAW) by ford. Thence steep climb through jungle along spur on W. side of valley (road narrow in valley but widens on the ascent 1 yd.—2 yds.).

Between

1m. & 2m.

Thence climbs steeply ($1/5$ — $1/8$) and passes above and S. of a large lake. *C.G.* for 1 Bn. on W. side of lake. (Lake 1 square mile, very deep, outflow in cup in hills above MONGHSAW.)

3m.

Reaches crest. Road to MONG HKA straight on. Route bears L., S.W. along ridge.

Passes HO NAWNG (6h. Lahu, friendly).

HO NAWNG CAMP.

4m. 5f.

C.G.—For 2 Plns.

Water—From 2 streams on each side of site.

Fuel—Very scarce. Small quantities obtainable $\frac{1}{2}$ m. distant on E. side of ridge.

Fodder—Scarce grazing.

Supplies—Nil.

Stage 2.**HO NAWNG CAMP—KAISHAN CAMP.**

10m. 2f.

Leaving camp the road bears L. and rises to the top of the ridge (very steep) joins crest road, turns R. and follows along the crest.

4f.

Passes KAISHAN (on crest). Continues along crest. Another road bears L. along E. side.

1m.

Descends among trees.

1m. 4f.

Reaches a saddle. Here the other road joins from L. Thence bears R. along side of hill.

1m. 6f.

Reaches crest of another ridge and follows it down through jungle.

ROUTE D-81—contd.

- 2m. Another road joins from L.
 2m. 4f. Passes MAN MAWN (Wa, 150h., friendly, in jungle on S. side of ridge). Thence steep descent (1/5—1/6) through thick jungle to valley. Crosses NAM YUN by ford and climbs steeply (1/4—1/6) bearing through R. fields on far side.
- 5m. Reaches top of ridge and passes YAWNG LUN (Wa, 200h., friendly) near crest, thence descends steeply. Crosses NAM YAWNG at bottom and climbs steeply (1/5—1/6) through thick grass.
- 7m. Reaches top of next ridge. Thence bears L. (S.E.) and follows round S.E. end of large valley.
- 7m. 4f. Passes KAWNG YAWNG (WA, 50h., friendly). Road through opium fields, very narrow, very bad for mules, where it crosses two small streams. Thence climbs on far side.
- 9m. 4f. Reaches crest of next ridge and continues along it.
 10m. Passes KAISHAN (Lahu-Muso, 20h., friendly), and continues N.W. to KAWNG LUK (Muso, 50h., in valley at 12m.). (Road for last 1/2 mile better, 1 yd. wide, hard and good.)

KAISHAN CAMP.

- 14m. 7f. *C.G.*—For 3 Plns. on sloping fields amongst thick jungle (500 yds. below and S. of KAISHAN).
Water—Plentiful for above force from small stream below *C.G.*
Fuel—Unlimited from jungle.
Fodder—Limited, jungle grazing.
Supplies—Negligible. Small quantities of paddy obtainable from village.

Stage 3.**KAISHAN CAMP—PANGLONG CAMP.**

- 5m. Leaving *C.G.* the road retraces itself.
 2f. Passes KAISHAN again and turns R. and descends steeply for 500 yds. (Road to KAWNG LUK straight on.) Thence bears L. (road narrow and uneven in places but hard).
- About 1m. Along the side of the hill. *C.G.* for 1 Coy. on L. of road.
 1m. 4f. Climbs steeply to the top of the hill where ridge divides and bears L. along crest of S. branch.
- 2m. 2f. A loop road bears L. (S.) round side of hill passing KAWNGMI (2 groups each 10h., Muso, friendly) and rises to top of ridge to join crest road at 3m. The route continues level through dense jungle.
- 2m. 6f. Descends steeply (1/5—1/6) down crest of spur.
 4m. 6f. Passes PANGLONG N. group (50h., Wa) in deep saddle. Thence descends along S.W. side of spur. (Road very uneven but hard) through scrub jungle till near PANGLONG (S. group, 50h., Muso) thence through dense jungle.

ROUTE D-81—concl'd.

PANGLONG CAMP.

19m. 7f.

C.G.—Possible site in valley (below PANGLONG).*Water*—Possibly available.*Fuel*—Plentiful from jungle.*Fodder*—Jungle grazing.*Supplies*—Nil.

ROUTE D-82.

PANGLONG—CHENGMAO.

Length:—15m.

1 Stage.

Epitome—

A mule track the whole way. Very narrow and uneven in places. Surface mostly hard and good, though soft or very uneven between 12m. and 14m. (much used by cattle). Breadth 1 ft.—2 yds. Gradients up and down the whole way with short stretches (1/6—1/8). Crosses river by ford at 8 miles.

NOTE.—At PANGLONG this route joins route D-81.

At CHENGMAO this route joins routes D-79, 80 and 83.

Stage 1.

PANGLONG—CHENGMAO.

- 15m. Leaving *C.G.* the route retraces itself for $\frac{3}{4}$ mile, then bears R. and rises to top of ridge at head of valley.
- 2m. Here road from KAWNG YAWNG joins on L. road steep in places (1/6—1/8) narrow (1 ft.—2 ft.) but hard. And continues along crest.
- 2m. 2f. Bears R. along another ridge—level.
- 3m. 2f. Steep descent (1/8) along crest through thick jungle (road 1 yd.—2 yds. wide—uneven and slippery).
- 5m. 2f. Reaches very low grassy saddle (here *C.G.* for 2 Coys.). Thence rises along crest of lower ridge. Thence descends to valley.
- 6m. 2f. Crosses NAM LONG (60 ft. × 2 ft.) by ford. (*C.G.* for 2 Coys. in paddy fields S. of NAM LONG.) Thence bears L. and follows S. side of valley, crossing several small valleys where road is soft and bad, remainder good, hard, but narrow. Thence bears R. and at
- 8m. Passes AKA (Lahu, 50h.) thence bears L. (E.N.E.) across more small valleys then climbs.
- 10m. Reaches top of ridge here passes NAM LONG (Chinese, 50h.), and crosses a good road. Thence continues, very good and wide, 2 yds.—3 yds. crossing ridge.
- 10m. 4f. Descends far side of ridge bearing R. up valley through thick jungle. (The NAM LONG here goes underground.)

ROUTE D-82—*contd.*

11m. 4f.

Bears L. (N.E.) through a pass among rocky hills (road here very bad and uneven).

14m.

Emerges into the CHENGMAO valley. Crosses river by good wooden bridge (fit for mules).

15m.

CHENGMAO (Lem, 150, friendly, amongst trees on W. side of valley).

C.G.—For 1 Div. in paddy fields opposite village.

Water—From stream.

Fuel—From jungle on N. E. side of valley.

Fodder—Grazing.

Supplies—Negligible. Small quantities of paddy and eggs obtainable from CHENGMAO.

ROUTE D-83.

WAN PANGHSANG—MI-HPA-KU.

Length :—65m.

6 Stages

Epitome—

A track fit for heavy mules the whole way in dry weather. Impassable in several stretches, and especially in stage 5 in the rains. The track undulates through paddy fields in stages 1, 3, 4 and 5. In stage 2 it passes through a stretch of dense jungle then more open country with a long steep and tiring climbs. In stage 5 it crosses the NAM LWI and tributaries 16 times, and in stage 6 the track climbs and descends steeply. Stages 2, 5 and 6 are difficult and tiring marches. The majority of streams crossed are bridged with temporary bridges and are fordable in the dry weather. The inhabitants of the majority of villages are friendly though in NYO PYIN, stage 5, they are unfriendly.

C.Gs.—For 2 Bns. throughout (more in some stages).

Water—Plentiful in all stages. Difficult of access in stage 6.

Fuel—Plentiful from jungle except stage 6 where scarce.

Fodder—Plentiful. Paddy grazing, except stages 5 and 6 where scarce.

Supplies—Small quantities of paddy, eggs, fowls, vegetables, cattle and pigs obtainable at all stages.

NOTE.—At WAN PANGHSANG this route joins Route D-93. See Route E-12. It is reported that in the past, motor cars used to reach MENGLEM; the road has deteriorated but it is believed it would not be difficult to connect MENGLEM (Route D-83) with MONG YANG (Route E-12) by a fair weather motor road.

Stage 1.

PANGHSANG—YAWNGPAI—CAMP.

11m. 4f.

5½ hrs. march troops; 5 hrs. Chinese mules.

6f.

The track runs South and East over paddy and at reaches the river NAM HKA. A temporary bamboo bridge and ford carries the track over, 3 ft. deep, 60 yds. wide. Track follows NAM HKA southward, flat; wide paddy fields on left to E.

ROUTE D-83—contd.

- 1m. 5f. Track follows NAM MA, tributary of NAM HKA.
 2m. 1f. Track crosses stream 10 yds. wide by temporary bamboo bridge 5 ft. wide.
 2m. 2f. Track crosses NAM MA by temporary bridge, 4 ft. 6 ins. wide, 40 yds. long. Ford 3 ft. 6 ins. deep.
 2m. 3f. Village of WAN WENG (10h). Track follows NAM MA and continues to do so, cut in side of hill S. of NAM MA. Track now begins to undulate with some short steep ascents and descents of 1/8.
 2m. 6f. Passes 900 yds. to left village of NAKANG.
 3m. 3f. Track crosses stream by small bamboo bridge. Heavy jungle now on right. Wide area of paddy fields on left in valley. These continue for the whole of this march.
 3m. 4f. Village HUYANG (10h).
 4m. 4f. Track crosses NAM VAN WANG stream, (24 ft. wide) by bamboo bridge 5ft. wide.
 4m. 5f. Village ANMA (10h) 800 yds. to left village MANVING (39h).
 5m. 1f. Passes 900 yds. to left village of WANKANG.
 5m. 2f. A weak temporary foot-bridge crosses NAM MA and joins track.
 5m. 7f. Village WANDAN (23h).
 6m. Wooden roofed bridge carries track across NAM KAT 15 yds. wide. Bridge 4 ft. 6 ins. wide.
 6m. 2f. A plentiful watering point on the right of track.
 7m. 2f. Track crosses stream NAM KUP, 5 ft. wide. Fordable. Bamboo bridge 9 yds. long by 2 yds. wide. A good C.G. on grass for 1 Bn. immediately after this stream. The track still passes over undulating ground, rising, in the main. Heavy jungle is now on both sides.
 8m. 1f. Village WAN SAI MON (10h). The ground now begins to descend.
 8m. 6f. Village KAUNG SANG (10h).
 9m. 6f. The track descends with rock precipice on left and rising vertically on right.
 9m. 7f. The track crosses a stream by a bamboo bridge 12 ft. x 4 ft. and crosses dried paddy fields.
 10m. The track rises at 1/6 by two hairpin bends. This causes delay in the progress of Chinese mules.
 11m. Track crosses NAM KUK by a bamboo bridge 10ft. x 5ft. and continues through paddy fields.
 11m. 3f. Village WAN YANG HAI 600 yds. to right S. of track (14h).
 11m. 4f. Track crosses stream at bottom of nullah NAM PON by bamboo bridge 12ft. x 5ft. and rises to
 11m. 5f. YAWNGPAI (14h). Height 2,800 ft.
 C.G.—For 2 Bns.
 Water—Plentiful from streams.
 Fuel—Ample from forest.
 Fodder—Not much grass. Much paddy.
 Supplies—Poor. Plenty of paddy, some chickens.

ROUTE D-83—contd.

Stage 2.

YAWNGPAI—TUNG HSA CAMP.

- 15m. 1f. 6 $\frac{3}{4}$ hrs. march troops. 7 $\frac{1}{4}$ hrs. Chinese mules.
Track continues to rise and undulates through heavy jungle.
- 7f. Track crosses a strong bamboo bridge over stream.
- 1m. A path branches off to right of track which continues to
- 1m. 2f. Passes over NAM WAN by bamboo bridge 8ft. \times 5ft.
- 1m. 4f. Track crosses NAM LING by bamboo bridge 5ft. \times 6ft.
- 1m. 5f. A broad path bears to right of track to village HOHAK. The height here is 3,180 ft. A bamboo fence now lines the left of track, which now descends.
- 1m. 6f. Track passes through bamboo gate to enter HOHAK (30h).
- 1m. 7f. Track crosses NAM LING by bamboo bridge 5ft. \times 8ft.
- 2m. Track emerges from jungle to wide open paddy fields, sufficient C.Gs. for 4 Bns. and more.
- 2m. 2f. Track crosses NAM HSIN by small bamboo bridge, and reaches level of river NAM MA, along which it undulates, a sandy dusty road. Height 3,000 ft.
- 2m. 3f. The track cuts away from a bend in the river over open wide paddy fields.
- 2m. 7f. 900 yds. to left village of VINGNGUN (40h).
- 3m. 4f. Track crosses stream by bamboo bridge 15 yds. \times 5ft.
- 3m. 6f. Market section (WANKAT) of village MENGMA (150h) is entered. Plenty of chickens, pigs, and cattle are obtainable here.
- 3m. 7f. River NAM ANG is crossed by bamboo bridge 5 yds. \times 5ft. to enter MENGMA village.
- 4m. 1f. Track crosses stream by wooden bridge 3 yds. \times 4ft.
- 4m. 5f. The NAM MA is joined by the NAM YA from the North East.
- 4m. 6f. The track crosses NAM MA by a bamboo temporary bridge 35 yds. long, 2 yds. wide.
- 4m. 7f. A short steep hill 1/6 leads track into heavy jungle.
- 5m. A path leads from track to right to village MAN LAI (40h).
- 5m. 4f. Path leads left from track to HOKAI. Track now begins to rise steeply sometimes at 1/5.
- 7m. 3f. A path leaves track to right for TUK MU. Track still ascends.
- 9m. 7f. Path leaves to left of track for HOKAI (35h).
- 10m. 3f. The height of 4,700 ft. is reached. The track now descends steeply.
- 13m. 2f. Clearing of paddy fields to left, C.G. for 1 Bn. Near it, a stream is crossed by small wooden bridge.
- 15m. 1f. **TUNG HSA CAMP.** Height 3,540ft.
C.G.—For 2 Bns.
- 26m. 6f. Water—Plentiful from streams N. of C.G.
Fuel—Plentiful from forest.
Fodder—Little grass. Plenty of paddy.
Supplies—Can be secured from villages passed through
Pigs, cattle chickens, eggs, greens.

ROUTE D-83—contd.

TUNG HSA CAMP—MANKAI.

age 3.

8m. 6f.

4 hrs. march for troops; $3\frac{1}{4}$ hrs. for Chinese mules.

Track from camp crosses stream by bamboo bridge 15 yds. \times 2 yds. and follows river NAM TSA, extensive paddy to left. Gentle undulation.

2f.

Stream is crossed by bamboo bridge.

4f.

Stream crossed. Bamboo bridge 4 yds. \times 2 yds.

6f.

Track enters heavy jungle.

1m. 2f.

NAM TANG TSA crossed by bamboo bridge 4 yds. \times 2 yds.

1m. 3f.

Stream crossed, 4 yds. \times 2 yds. into village TUNG HSA (13h). The paddy on each side of the track recommences, and continues the whole march there is ample C.G. on paddy at frequent intervals.

2m.

NAM TSA is crossed by strong wooden bridge roofed, 37 yds. \times 2 yds. Mules with high loads should use ford on right of bridge. Track follows river to right. High cliffs on left for 1f. then heavy jungle.

2m. 6f.

Wide track continues straight on, wet weather route. Dry weather, path branches to right across paddy along river.

3m. 2f.

Track bears left. Path leaves track to right.

3m. 4f.

Path from track left to HUYA.

3m. 5f.

Track crosses NAM KYAN, bamboo bridge 6 yds. \times 2 yds.

4m. 3f.

Path from track to right. Outskirts of village MENG-LEM, large with many brick buildings.

4m. 4f.

Track bifurcates, to the right is correct. Track bears right through village.

5m.

Wood bridge 70 yds. \times 5 yds. crosses NAM LWI. Track on far side turns left and goes up river for 1f.

5m. 3f.

Track turns left.

5m. 4f.

Track crosses cross roads of stony tracks from right and left.

5m. 5f.

Stony track bears right at fork. Correct track straight on, (earth). Many small paths join main track, which now travels in light jungle.

6m.

Track at bottom of nullah, crosses stone bridge 5 ft. \times 4 ft. then rises steeply.

6m. 4f.

Highest point 3,500 ft. Track now descends.

7m. 4f.

Wide path leaves track on right.

7m. 5f.

Track crosses river NAM LWI by rough trunk bridge 35 yds. \times 1 yd. Ford 3 ft. deep.

8m. 4f.

Track passes through paddy to stream NAM KAW.

8m. 6f.

Track crosses stream by plank bridge 10 yds. \times 1 ft., ford 1 ft. deep, to enter.

3m. 6f.

MANKAI CAMP—Height 3,350 ft.

35m. 4f.

C.G.—Ample for 3 Bdes. in paddy fields.

Water—Ample from streams NAM KAW and NAM LWI.

Fuel—Ample from forest.

Fodder—Plenty of paddy. A little grass.

Supplies—Chickens, eggs, cattle from village. Pigs.

ROUTE D-83—contd.**Stage 4.****MANKAI CAMP—CHENGMAU.**

- 10m. 2f. 4½ hrs. march troops; 4 hrs. Chinese mules.
Track crosses paddy fields and follows NAM LWI through light jungle, crossing a path to MANKAI and NAM LWE.
- 4f. A series of three roughly bridged small streams across track.
- 1m. 5f. Track leaves river to pass through undulating jungle grassland.
- 2m. 6f. Path crosses track (left to village TSINGEL, right to LING PYU).
- 3m. 7f. Track crosses NAM LWI by rough bamboo bridge 25 yds. × 2 yds.
- 4m. 2f. Small bamboo bridge 2 yds. × 1 yd. carries track over stream.
- 5m. 2f. Track fords stream 4ft. wide at bottom of nullah.
- 5m. 4f. Track bifurcates, the right track is correct.
- 5m. 5f. Track bifurcates, bear left to cross paddy fields by NAM LWI, dry weather path.
- 6m. Village TAWN TAO 500 yds. to right.
- 6m. 1f. Rejoin main track and continue through heavy jungle.
- 6m. 4f. Track reaches paddy fields by NAM LWI and crosses them.
- 6m. 6f. Track crosses NAM LWI by rough bamboo bridge 45 yds. × 2 yds.
- 6m. 7f. Track passes village KENG HIN on other side of NAM LWI.
- 9m. 4f. Track crosses stream by bamboo bridge 4 yds. × 2 yds.
- 10m. Track crosses NAM KO by very rough bamboo bridge 40 yds. × 1 yd. Ford 1 ft. 6 ins. deep.
- 10m. 2f. Track reaches wide paddy field area between CHENGMAU and NAM LWI.
- 10m. 2f. **CHENGMAU.**
C.G.—Ample for 3 Bdes. (150h) 3,550 ft.
Water—Plentiful from NAM LWI.
Fuel—Ample from local supplies.
Fodder—Little grass; ample paddy.
Supplies—Chickens, eggs, pigs from village.
-
- 45m. 6f.
-

Stage 5.**CHENGMAU—AKA VALLEY CAMP.**

- 10m. 1f. 5½ hrs. march troops; 5 hrs. Chinese mules.
Track leaves camp to move up NAM LWI, CHENGMAU on left, travelling round paddy fields to NAM LWI.
- 1f. Track bifurcates, bear right.
- 5f. Track crosses small stream with full flow, by ford, and reaches NAM LWI along which it travels whole stage.
- 6f. Path leaves track to left, short cut but very steep.
- 7f. Track crosses bamboo bridge, old, 6 yds. × 7 ft.
- 1m. 5f. Track descends to river edge to travel on grass, probably flooded during rains.
- 1m. 7f. Track rises to continue above river level through paddy fields. Village MONG NYIN visible to right front.

ROUTE D-83—*contd.*

- 2m. 4f. Track crosses bend in river twice, on bamboo trunk bridges, 10 yds. x 2 ft. and crosses shingle between cliffs.
- 3m. Undulation recommences as track re-enters light jungle ascending by narrow cut rock path.
- 3m. 1f. A 10-yd. trunk bridge is crossed by track.
- 3m. 3f. A 4-yd. trunk bridge is crossed by track. Paddy fields are now visible along river valley, the sides of which are steep. Great cultivation is now noticeable on the upper slopes.
- 4m. 7f. A series of fords commences. Sixteen have to be crossed by track which is now a rough path. Depth does not exceed 1 ft.
- 6m. 4f. Wide paddy fields on each side of track appear suitable C.G. for 2 Bns.
- 8m. 6f. Track leaves NAM LWI and rises steeply by good 6 ft. earth road to left.
- 9m. 3f. Small path leads to right from broad track to village NYO PYIN one of AKA minor villages.
- 9m. 5f. Track passes through village NYO PYIN to descend steeply by narrow path through thick heavy jungle to paddy field C.G. of NAM LWI.
- 10m. 1f. **AKA CAMP**—4,750 ft.
- 55m. 7f. C.G.—Enough for 1 Bn. Difficult to enter and leave, as only one small entrance.
- Water—Ample from river NAM LWI.
- Fuel—Ample from forest.
- Fodder—Poor. Little paddy, little grass.
- Supplies—Chickens, eggs, pigs in small quantities from village.

Stage 6.

AKA VALLEY CAMP—MI HPA KU CAMP.

- 9m. 2f. 4½ hrs. march for troops.
- 4f. Track returns climbing same path to village. Short cuts are too steep and waste time.
- 1m. As track reaches edge of village, it turns hair pin bend to right and climbs steeply, a rough path to where it joins broad track and continues to climb steeply.
- 1m. 2f. A broad path leaves track, going right to village WAN TUNG.
- 1m. 4f. The steep ascent becomes gentle undulation, mainly ascending along ridge. Country on each side in valleys is grassland, *taungyas*, few trees.
- 1m. 5f. Path leaves track on right.
- 4m. 3f. Path branches from track to left to village MONGH. SAW.
- 4m. 4f. Broad track bears right to HA MAWTON. Correct track bears left to ascend steeply as rough path.
- 7m. 7f. Path branches right from track, to villages HSAWA and HOMA DADE.

ROUTE D-83—contd.

8m. 2f.

Path to *C.G.* leaves broad track to right, and descends steeply through grassland.

9m. 2f.

MI HPA KU CAMP.—5,850ft.

65m.

C.G.—Sufficient for 3 Bns. well separated areas.

Water—Sufficient, but difficult of access, owing to steep slopes and distance to water points.

Fuel—Poor supply. Fatigue parties have to be sent 1 mile from *C.G.*

Fodder—Poor. Little grass, sufficient paddy.

Supplies—Chickens, eggs, from village for Chinese money only. Otherwise none..

ROUTE D-84.**WAN PANHSANG—TA HSAILENG FERRY.**

Length :—119m. 6f.

11 Stages.

Epitome—

In stage 1 a mule track fit for heavy pack tpt. 6ft. wide and well graded. It runs for six miles through scrub jungle. Tps. could operate off the track. For the remaining six miles the hillside is steeper. Stage 2 track runs through open grass country whilst on the ridge, but the country becomes thick in places in the valley. In stage 3 track as before up to MOTUNG, thence the hillside becomes steeper and the track only 2ft. wide. Stage 4 along a ridge track 2ft. wide. Stage 5 fit everywhere for pack tpt., 2ft., wide. Country generally open and grass covered. In stage 6 the track is fit for pack tpt. except over the NAM HSI where it is steep and difficult, 2ft. wide. Country open and grass covered. Stages 7, 8, 9 and 10—the track is everywhere fit for pack tpt. Country open and grass covered. Tps. could operate off the track throughout.

C.Gs.—Average for 1 Bn. In stage 8 *C.G.* is limited in dry season owing to lack of water.

Water—Plentiful except stages 4, 6, 7 and 8 where limited.

Fuel—Available throughout.

Fodder—Grazing available.

Supplies—Nil.

Stage 1.**WAN PANHSANG—HSAWNGLONG.**

12m.

Path commences through bazaar.

4f.

Crosses a stream (fordable, 10ft. x 1ft. deep). Thence ascends average gradient being $1/6$.

2m.

Passes KAWNSANG, (Shan 15h). Thence continues to ascend crossing two small streams. The gradient $1/6$ except in the stretch where gradient is $1/2$.

ROUTE D-84—*contd.*

- 5m. 4f. Passes small stream.
 6m. 4f. A path R. to PANGLANG (Shan 15h, ample water here). Thence track becomes level.
 8m. Passes C.G. for 1 Coy. Crosses stream.
 8m. 4f. Ascends by easy gradient.
 9m. 4f. Passes watershed and a path L. Thence by easy gradient on E. face of hill to
 12m. **HSAWNGLONG** (Shan-Chinese 60h).
 C.G.—For 3 Coys. W. of village.
 Water—Ample.
 Fuel—Ample.
 Fodder—Ample.
 Supplies—Nil.

Stage 2.

HSAWNGLONG—LOILON.

- 16m. 2f. Path leaves camp at E. entrance running through the village at a gradient of 1/4.
 4f. Ascends nearly to top of ridge (gradient 1/6).
 2m. 2f. A path R. to TA-AW (Wa 15h). Thence along ridge.
 3m. 2f. Crosses col. (2 villages visible to L.) Thence ascends crossing a spur (gradient 1/8) and thence again along ridge.
 6m. 2f. Passes C.G. for 1 Coy. Here path forks, and route runs right handed. Thence steep descent (gradient 1/2).
 8m. 2f. Passes HSIASAW (Wa 60h) and continues descent (gradient 1/4).
 9m. 2f. Crosses NAM HKAM (6ft. × 1ft.). Thence crosses a spur.
 9m. 6f. Crosses a stream (6ft. × 1ft.) and again over spur another stream.
 10m. 6f. (6ft. × 1ft.) thence crosses another spur.
 11m. 6f. Passes NAMLU (Shan 4h) and crosses stream (10ft. × 1ft.). All the streams are easily fordable. Here C.G. for 1 Bn. Thence ascends (gradient 1/4) to top of spur and continues along it with easy gradients.
 12m. 2f. Reaches crest of main spur. Thence along spur to
 13m. 6f.
 28m. 2f. **LOILON** (deserted village).
 C.G.—For 1 Bn.
 Water—Sufficient for 1 Bn.
 Fuel—Available.
 Fodder—Available.
 Supplies—Nil.

Stage 3.

LOILON—NAHPAN.

- 16m. Path climbs from camp to near the top of the ridge and follows this to
 1m. Passes MOTUNG (Wa, 6h). Thence turning W. it runs at a gradient of 1/6.
 2m. Descends over spurs and crosses 2 cols.
 5m. 4f. Passes YAWNGMUT (Wa, 6h, 2 villages).
 7m. 4f. Passes MOTLWE (Wa, 20h). Thence continues at gradient 1/4.

ROUTE D-84—*contd.*

- 8m. 4f. A road R. to NAPON (deserted). Thence over spur and descends to
- 10m. Passes PANGKWI (Shan, 4h).
- 10m. 4f. Reaches NAM PANG (120ft. \times 3ft.). Thence follows river down stream, and up the HWE HOK CHAUNG (6ft. \times 2ft.).
- 12m. Passes HWE HOK (80h Shan, 3 villages).
Unlimited *C.G.* in paddy fields near HWE HOK. Thence continues along the stream.
- 13m. Ascends spur (gradient $1/4$).
- 14m. Reaches a spring near the crest. Thence ascends by easy gradients passing several suitable *C.G.s.* in paddy fields
-
- 44m. 2f. **NAHPAN** (Shan, 80h).
C.G.—Good E. of village on banks of NAM KUNG.
Water—Plentiful.
Fuel—Ample.
Fodder—Ample.
Supplies—Nil.

Stage 4.

NAHPAN—PAWNGPO.

- 9m. 2f. Path runs S. from camp and crosses NAM KUNG (10ft. \times 1ft.). Thence ascends over spur (gradient $1/8$).
- 2f. Reaches small stream; thence climbs another spur (gradients $1/4$ — $1/8$).
- 1m. 2f. Path to L.; thence ascends (gradient $1/4$ — $1/8$) to
- 2m. 6f. Passes HTAKWA (Wa, 30h, 100 yds. L. of path).
- 3m. 2f. A Path L. to PANGTONG.
- 4m. 2f. Crosses track, route bearing left. Thence ascends by easy gradients to
- 5m. 2f. Crosses the watershed. Thence route descends.
- 6m. 2f. A track to L.; thence along crest; easy gradients.
- 7m. 2f. Passes village (Wa, 10h, 200 yds. L. of track). Thence track swings N. and at
- 8m. 6f. Passes PAWNGPO (Wa, 40h, 3 villages). Thence to *C.G.* round first two villages and $\frac{1}{2}$ m. W. of 3rd village.
-
- 53m. 4f. **CAMP PAWNGPO.**
C.G.—For 2 Coys. in upland *taungya*.
Water—Sufficient for above force.
Fuel—Obtainable.
Fodder—Ample.
Supplies—Nil.

Stage 5.

PAWNGPO—MANHAU CAMP.

- 10m. 4f. Path leaves camp by western entrance and descends by easy gradients passing two paths to R.
- 1m. 6f. Passes MWUT PWUR (Wa, 30h, visible to L.). Thence climbs spur by easy gradients at
- 2m. 6f. Crosses another path.
- 3m. 2f. Passes MWUT PWUR (50h, Wa, 3 villages).

ROUTE D-84—contd.

- 4m. 2f. Crosses main path with path joining from L. and a village (10h) is visible to L.
- 5m. Route reaches crest of ridge passing two tracks to L. Thence continues along ridge by easy gradients passes two paths (a) to L. and (b) to R. through a thick jungle defile.
- 7m. Passes PAN KAW (Wa, 50h), here a large road R. to MAN LONG. Thence continues along ridge.
- 8m. 4f. Passes MANYET and MAN HAU (Wa, 200h, 3 villages of the SONGLONG group). Thence steep ascent (gradient $1/4$) to

64m.

MAN HAU CAMP.*C.G.*—For 1 Bn. in *taungya* on bank of NAM HSI.*Water*—Plentiful from NAM HSI.*Fuel*—Obtainable.*Fodder*—Obtainable.*Supplies*—Nil.**Stage 6.****MAN HAU CAMP—SA-AWT-TAU.**

- 7m. Route descends 100ft. to NAM HSI (15ft. \times 2ft.—fordable in dry weather only). Thence descends (gradient $1/4$) and at
- 6f. Passes SA-AWT (2 villages Wa, 100h). Thence ascends with gradient of $1/6$ and at
- 2m. 2f. Passes *C.G.* for 2 Coys.—ample water from stream. Thence descends with gradient $1/4$ and at
- 3m. Crosses a col. and turns N. up ridge from here KAWNG-TET (Wa, 100h), is visible 1m. to W.
- 4m. 4f. Passes stream very small (1 gallon per minute). Thence descends and at
- 6m. Passes SA-AWT-TAU (Wa, 20h); thence along narrow ridge to N. and at

71m.

SA-AWT-TAU (Wa, 20h).*C.G.*—Available N. of village.*Water*—Ample from stream.*Fuel*—Obtainable.*Fodder*—Sufficient grass.*Supplies*—Nil.**Stage 7.****SAA-WT-TAU—HPANGMOT.**

- 9m. Route leaves camp at Western entrance and descends N. down spur. Gradient $1/6$.
- 4f. Reaches small stream. Thence crosses spur.
- 1m. 4f. Passes AWMUN (Wa, 50h). Thence crosses a path and runs down the spur to
- 1m. 6f. Forks L. and continues descent to
- 2m. 2f. Crosses stream. Thence crosses another spur at
- 3m. 6f. Passes UM PRUH (Wa, 10h). From here ascends by steep gradients.
- 4m. Gradients become easier.

ROUTE D-84—*contd.*

- 5m. 4f. Passes LAIKWA (Wa. 100h, bazaar). Thence turns
 E. down spur, at
 7m. 4f. Passes UMTWA (Wa. 40h).
 8m. 4f. Passes HPANGMOT (Wa. 200h).

 80m.
HPANGMOT CAMP.

C.G.—Available, $\frac{1}{2}$ m. N. of village.
Water—Limited $\frac{1}{2}$ m. distant.
Fuel—Obtainable.
Fodder—Obtainable.
Supplies—Nil.

Stage 8.**HPANGMOT CAMP—LONG HKWA.**

- 9m. 4f. From camp route goes back along the same route as
 previous stage: at—
 3m. 4f. Passes LAIKWA again, thence continues up the spur;
 at
 3m. 6f. Route descends passing a spring of 6 gallons a minute;
 at
 4m. 4f. Crosses dry stream. Thence climbs by gradient of $\frac{1}{4}$
 to
 5m. 2f. Passes HPANGPAT (Wa. 120h, 2 villages, burnt in
 1936). Thence turns down the spur.
 5m. 6f. Passes hamlet (4h); thence turns N. and descends by
 gradient $\frac{1}{5}$ to
 6m. 2f. Passes village (Wa. 10h) and stream (6 gallons a minute).
 Thence descends by easy gradients. At—
 6m. 4f. Turns right at fork.
 6m. 6f. Reaches a dry stream. Thence turns E. and by gentle
 gradient crosses a saddle and at
 7m. 6f. Crosses OMNGA (10ft. \times 1ft.). Here a *C.G.* for 2 Coys.—
 400ft. above stream. Thence ascends by gradients of
 $\frac{1}{4}$ — $\frac{1}{8}$ and at
 9m. Passes burnt village.
 Passes burnt village (LONG HKWA) on main spur here—
 (All villages on this ridge belong to the LONGHKWA group
 and were burnt in 1936.)

 89m. 4f.
LONG HKWA.

C.G.—For 2 Coys.
Water—Plentiful.
Fuel—Obtainable.
Fodder—Obtainable.
Supplies—Nil.

Stage 9.**LONG HKWA CAMP—KANGHSO (CAMP NAM LIN).**

- 9m. 6f. From camp route climbs at gradient $\frac{1}{5}$ to
 4f. Top of ridge. Thence descends by easy gradients to
 6f. NAMANHSUM stream (10ft. \times 1ft.). Here *C.G.* for
 3 Coys.—400ft. above stream. Thence ascends by gradient
 of $\frac{1}{4}$ to

ROUTE D-84—contd.

- 2m. 2f. Passes burnt village MANSUM. Here joins main route to KANGHSO and runs righthanded along (MANTING spur) crossing spur. Thence descends and at
- 5m. 4f. Crosses NAM LIN (6ft. \times 1ft.). Thence again ascends in gradient of 1/4.
- 5m. 6f. Reaches top of spur. Thence continues by easy gradients and at
- 7m. Passes a spring (2 gallons a minute).
- 8m. Passes MANMAW (Wa, 80h.). Route turns N. in village and descends and at
-
- 99m. 2f. Passes **KANGHSO (NAM LIN)** (Shan, 20h.).
- C.G.*—Available in paddy fields.
- Water*—Available.
- Fuel*—Obtainable.
- Fodder*—Obtainable.
- Supplies*—Nil.

Stage 10.

KANGHSO (NAM LIN) CAMP—HSOPMA.

- 17m. 4f. Leaving camp the route crosses paddy plain and at
- 1m. Crosses NAM LIN (10ft. \times 1ft.). Thence ascends by gradient 1/6 to top of ridge. At
- 2m. 2f. Passes KANGHSO (Wa, 120h., 2 villages). Thence descends by easy gradients and at
- 2m. 6f. Passes MANKWEI (La, 20h, $\frac{1}{4}$ m. to L.).
- 3m. Passes MANSO (La, 20h). Here *C.G.* for 1 Coy. W. of village. Thence descends and at
- 5m. 4f. Crosses stream and ascends in gradient of 1/4 to
- 6m. 4f. Passes YAWNGRO (La. 50h). Thence ascends.
- 7m. Reaches top of ridge. Thence descends by easy gradients and at
- 8m. Passes PANLWE (6h—La.).
- 9m. Passes MANSUM (La—10h); ample water.
- 10m. 6f. Passes MANTON (La, 100h, bazaar, 2,800ft.).
- 12m. 4f. Passes MANNYEM (La, 100h).
- 12m. 6f. Passes MANNYEM (La, 20h). Still descending by easy gradients crosses spur and at
- 15m. 2f. Passes HIRANGTAP (La, 6h).
-
- 116m. 6f. **HSOPMA**—(Shan—30h.).
- C.G.*—For 2 Coys. S. of village on bank of SALWEEN.
- Water*—From SALWEEN.
- Fuel*—Obtainable.
- Fodder*—Obtainable.
- Supplies*—Nil.

Stage 11.

HSOPMA—TA HSAILENG CAMP.

- 3m. Leaving camp the route continues and at
- 2f. Crosses NAM MA (180ft. \times 5 $\frac{1}{2}$ ft.) by 2 rafts. Thence route runs level and at
- 1m. 6f. Passes MANLON (Shan—20h).

ROUTE D-84—contd.

2m.

Reaches SALWEEN ferry. The SALWEEN here is almost 160 yds. wide and is crossed by dugouts, 32 of which are available. Both sides of river are shallow and embarking and disembarking is easy. On far bank village of TA HSAILENG (30h, Shan, on W. bank of SALWEEN).

119m. 6f.

TA HSAILENG CAMP.*C.G.*—For 1 Bn.

Water—Plentiful; from spring producing 8 gallons per minute and river.

Fuel—Obtainable.*Fodder*—Obtainable.*Supplies*—Nil.**ROUTE D-84(A).****TA HSAILENG—PANGHSANG.**

Length :—114m. 5f.

11 Stages.

Epitome—

This route commences from the SALWEEN crossing at TA HSAILENG and follows Route D-84 backwards for 2 stages to KANGHSO. And again from HSAWNG-LONG-PANGHSANG—Stage 11.

The route is passable to pack tpt. throughout, passing generally through steep undulating country, very steep in some places. Mostly through thick country with more open country on the hill tops and patches of opium and other cultivation.

C.Gs.—Available, generally for one Coy. though congested in some stages.

Water—Available throughout though restricted in some stages.

Fuel—Available.*Fodder*—Available.*Supplies*—Nil.**Stage 1.**

3m.

TA HSAILENG—HSOPMA.

This route is as in D-84 and is short owing to the time taken in crossing the SALWEEN.

Stage 2.

17m. 4f.

HSOPMA—KANGHSO.

This stage is again as in Route D-84.

Stage 3.

13m. 4f.

KANGHSO CAMP—PANGLAT CAMP.

Marching time for Tps. 5 hrs. 45 mins.

Leaving C.G. the route descends to

4f.

Whence it climbs steeply.

ROUTE D-84(A)—*contd.*

- 6f. Passes NAM LIN (on s.b. of tributary of NAM MA fordable everywhere). Thence climbs steadily.
- 2m. 4f. Passes MAN MAW (Loila, 50h). Thence descends for a few hundred yards, turns R. over a ditch and then climbs steadily to a point about 1,500ft. above KONG SHAW, and emerges from the pass at
- 4m. and reaches a saddle—here a track junction of several paths. A local guide is essential to ensure maintaining the correct route. Thence through open cultivation and grass land to
- 5m. 1f. Here steep descent for 200 yds. then level for 500 yds. and then steep descent (total drop 500ft.) to
- 5m. 7f. Then climbs steadily for 6f. and continues level to
- 7m. 5f. Thence a steep climb to
- 8m. Passes MAN LOI KWEI (4h, Loila). Route continues level for a short distance and then climbs gently through open grass land and clumps of trees to a pass at
- 9m. Thence continues—surface rough—level through woods. And on emerging from the pass descends very steeply, surface deteriorating to
- 10m. 4f. Route passes L. of and above TOLO (Loila, 50h.) Thence climbs steadily to a ridge through open cultivation at
- 11m. 4f. And continues fairly level along ridge through *taungya* cultivation to
- 13m. Thence route turns S. and descends through PANGLAT (Loila, 100h), to
- 34m. **PANGLAT CAMP.**—(A possible site for 2 Coys. with water from nullah, i.e. S., 500 yds. from C.G. between nullah and LOIKWA).

C.G.—For 1 Coy.

Water—Poor supply available.

Fuel—Plentiful.

Fodder—Jungle grazing.

Supplies—Nil.

At the instigation of chinese bandits in KANGHSO, PANGLAT resisted the B. F. F. column in 1935-36. The village was attacked and burnt. The attitude of the villagers greatly improved afterwards.

Stage 4.

PANGLAT CAMP—SAAWT NAI CAMP.

- 7m. Marching time for Tps. 3 hrs. 45 mins.
- 2f. Leaving C.G. route continues S. and descends steeply to
- 5f. Crosses a dry nullah (fordable in rains). Thence a steep climb to
- 2m. Passes LOI KWA (Loila). Route turns sharp R. in village and descends steeply through a copse for 1f. and continues level for 500 yds. through scrub, then descends (1,000ft.) through high grass to
- 3m. Where it climbs steadily through open cultivation and grass land (1,000ft.—narrow in places) to
- 3m. Passes UMPRE (Loila), turns R. in village and continues level to

ROUTE D-84(A)—contd.

- 3m. 3f. Here route descends to a stream (6 ins. 1ft. deep; fordable).
- 4m. Climbs very steeply to a wood at
- 4m. 4f. Here route turns R. at cross tracks and after 100 yds. passes AW MUN (Loila—straggling). Thence gradual descent, surface good and wide, to
- 5m. 5f. Crosses small stream. Then very steep descent for 500 yds. through open grassland and continues level to
- 6m. And again steep descent through open grassland to
- 6m. 4f. Crosses small stream (perennial). Then climbs steeply (approx. 600ft.) to camp site, 400 yds. N. of SAAWT NAI.

41m.

SAAWT NAI CAMP.

C.G.—Good—for 1 Coy.

Water—Good supply.

Fuel—Ample.

Fodder—Jungle grazing.

Supplies—Nil.

Stage 5.

SAAWT NAI—NAM HSI CAMP.

- 7m. 2f. Marching time for tps. 3 hrs. 55 mins.
Leaving *C.G.* route passes through SAAWT NAI and turns L. and undulates over open ground to
- 3½f. Passes PANGKLONG. Here route bifurcates; take L.-handed path and after a few yards take R.-handed track at another bifurcation. Passes MANTAU (500 yds. R. across valley).
- 1m. Keep L. at bifurcation just after passing a large tree R. of track.
- 1m. 1½f. Route climbs steeply for 100 yds. and thence undulates.
- 1m. 3f. Turns R. at bifurcation. Thence undulates steeply and crosses a spur at
- 2m. 1f. Thence descends to cross a small stream at
- 2m. 4½f. and climbs over another spur. After 250 yds. passes a peculiar thick green tree L. of track; thence climbs along E. face of the spur and crosses two more in fairly quick succession and continues to ascend.
- 3m. 3f. Crosses another spur. Thence undulates and crosses top of small round hill at
- 3m. 5½f. Thence steep descent for 3f. to a col.
- 4m. 5f. Crosses stream (good *C.Gs.* in the vicinity) and continues to descend along S. side of valley to
- 5m. 4f. Thence descends fairly steeply bearing R. at a bifurcation.
- 5m. 6f. Passes MAN THAU upper village (25—35h.); thence descends steeply to
- 6m. 2f. Passes MAN THAU (25h). Thence continues steep descent to the NAM HSI (60ft. x 3ft.; rapid current) thence climbs steeply to

ROUTE D-84(A)—*contd.*

48m. 2f.

NAM HSI CAMP.*C.G.*—Good in open cultivation.*Water*—Excellent.*Fuel*—Available.*Fodder*—Available.*Supplies*—Nil.

NOTE.—The village of MAN THAU is called by villagers SAU TA O SAAWT, HO-OOT.

Stage 6.**NAM HSI STREAM CAMP—PANGPAO (PANGYOK).**

10m.

Marching time for Tps. 6 hrs. 15 mins.

Leaving *C.G.* the route climbs steeply (1,000ft.) through open cultivation, thence continues through a spinnery for 1,500 yds. passing a small spring.

2m.

Passes MAN KONG (50h), and after 100 yds. MAMN-YET (50h). In this area, known as SONGLONG, many tracks run to little hamlets.

2m. 2f.

Route continues through bush jungle for 500 yds. whence the track bears R. at a fork. (In the middle of the fork a kind of official entrance has been built.) Thence descends through jungle and after 500 yds. tracks join from R. and L. Passes PANKAW (50h). Thence track is broad through dense jungle for 200 yds. to a track junction where it bears R.; thence gradual climb through alternate thick tree and scrub jungle to

4m.

Here route undulates through woods to about

4m. 4½f.

Here a track to L.

4m. 5½f.

A track to L.

5m. 1½f.

Bears L. at track junction. Thence undulates through open country to

5m. 4f.

Thence through thick grass to

5m. 5f.

Bears L. at track junction.

5m. 7f.

A track to R. Thence route undulates through open country to

6m.

Thence climbs for 100 yds. and continues through thick grass to about

6m. 2f.

After 200 yds. a path to R.; thence route undulates along top of a spur through open country and then descends to

8m.

Passes MANGMAO (20h). Bears R. at forked tracks beyond village. Thence descends through thick grass and open cultivation to

8m. 2f.

And then climbs to

8m. 3f.

Whence it undulates (chiefly descending) along a ridge through open cultivation and grass land to

9m. 3f.

Here a cross track—carry straight on—the R. track descends to a village 400 yds. distant. Thence route undulates chiefly climbing, through open cultivation and scrub alternatively.

ROUTE D-84(A)—*contd.*

58m. 2f.

PANGYOK.*C.G.*—Poor and limited.*Water*—Bad supply.*Fuel*—Available.*Fodder*—Available.*Supplies*—Nil.**Stage 7.****PANGYOK (PANGPAO)—NAHPAN (MANSUM).**

11m.

Marching time for Tps. 4 hrs. 30 mins.

Leaving *C.G.* the route passes below and N. of PANGYOK and undulates through scrub jungle to about

4½f.

Thence undulates along a ridge through burnt and open country to

1m.

Bears L. at a track junction and continues along the ridge.

2m. 4f.

A stiff climb and descent through thick bush jungle.

3m.

Reaches an open clearing; thence undulates, steep in places, along a ridge through fairly open jungle, thence steep descent for 200 yds. and then undulates still through thin, big tree jungle. After descending for some distance route again ascends through long grass to

7m. 4f.

Thence undulates through woods and bush jungle to

9m. 4f.

Thence descends through tall grass and saplings to a stream and then a short rise followed by a level stretch.

NAHPAN (MANSUM) (Po Shan).

69m. 2f.

C.G.—Excellent, with ample space (before reaching village).*Water*—Plentiful from NAM KUNE near *C.G.**Fuel*—Available.*Fodder*—Available.*Supplies*—Nil.**Stage 8.****NAHPAN—MAN PLAO (NAM PANG River).**

6m.

Marching time for Tps. 3 hrs.

Leaving *C.G.* the track crosses paddy fields and enters the village of NAHPAN, and then the bazaar. After 100 yds. route forks R. at track junction across paddy fields to a stream at

1½f.

Thence undulates (broad track) through scrub jungle to

4f.

Here crosses a small stream and paddy field valley 100 yds. wide thence climbs through jungle to

1m.

Here crosses a dry nullah and continues undulating mostly downhill through open land and cut jungle to

2m.

Thence continues descending to

2m. 4f.

Whence it crosses a small stream and continues to undulate downhill to the MAN PLAO valley alongside a small stream to

3m.

Route continues to undulate through alternate thick and cut jungle, and open land—mostly downhill—crossing the stream three times and passing a small spring.

ROUTE D-84(A)—*contd.*

- 4m. 4f. Passes MAN HWE HOK.
 4m. 7f. Route bears R. at track junction.
 5m. 1f. Route bears R. again at track junction.
 5m. 2f. Crosses the stream.
 5m. 4f. Recrosses stream. Thence undulates through big tree jungle.
 5m. 5f. Recrosses stream.
 5m. 6f. Reaches NAM PANG and follows along it to the bridge (unfit for tpt.). The track does not cross by the bridge but continues upstream to a ford (2ft. deep—fordable). Thence track climbs steeply through jungle for 200 yds. and then descends turning L. at a forked track junction to
-
- 75m. 2f. **MAN PLAO CAMP.**
C.G.—Congested on banks of river.
Water—From NAM PANG.
Fuel—Available.
Fodder—Available.
Supplies—Nil.

Stage 9.

MAN PLAO CAMP—LOILON.

- 10m. Marching time for Tps. 5 hrs. 15 mins.
 Leaving *C.G.* the track undulates through jungle to
 2f. Where it crosses a stream and then climbs steeply to
 6f. A path joins L. 300 yds. up this climb. Thence route undulates through jungle to
 7f. Whence it reaches open cultivation and continues across this to
 1m. 2f. Thence climbs to
 1m. 7f. A track joins R. and route continues along ridge to
 2m. 2f. Passes MOTLWEI. Thence route undulates along a ridge, chiefly descending and then climbs steeply for 500 yds. to
 3m. Thence route undulates along a ridge through jungle, and then across open land for 300 yds. to re-enter jungle. Climbs steadily up a ridge, at rt. angles to the path, on top of which a track leaves L. to
 4m. 5f. YAWNG MUT—200 yds. distant. Thence track winds through alternate scrub jungle, and pampas grass with one 200 yds. stretch of open land, where a track leaves L., passing three springs 200 yds. apart to
 7m. Thence level through open jungle and then climbs steeply to
 7m. 6f. Passes MOTONG. Route continues level to
 8m. 2f. Where a track leaves R. (at an acute angle). Thence climbs and undulates along a ridge to
 9m. 4f. Where a track leaves R. Thence route runs level for a short distance and finally climbs through fairly open country to top of ridge on which stands a pagoda.

ROUTE D-84(A)—*contd.*

85m. 2f.

LOILON CAMP.

C.G.—For 2 Coys., more with clearing 100 yds. below summit of the ridge.

Water—Sufficient for 150 men (dry season).

Fuel—Available.

Fodder—Available.

Supplies—Nil.

Stage 10.

LOILON—HSAWNGLONG.

17m. 3f.

Marching time for Tps. 8 hrs.

Leaving S. W. from LOILON tract bears R. at bifurcation. Continues level and at

1½f.

Crosses nullah by a bridge.

2½f.

A track bears R. (back), and after 25 yds. route turns down hill at bifurcation.

6f.

Route turns R. at track junction. (L. track to NAWNG-LFNG, 200 yds. distant.) Thence undulates through scrub along a spur to

1m. 5f.

Where it crosses col. and descends to

2m.

Steep climb through scrub jungle to top of hill at

2m. 7½f.

Thence undulates gently to

3m. 7f.

A track from R. rear joins. Thence steady descent for 1f. where a track leaves L. and continues descent to

4m. 1¾f.

Then climbs and continues undulating to

4m. 5¼f.

Passes PANGLAT, R., thence descends at first gently and then steeply undulating to a valley (here avoid taking track descending L.), to

5m. 6½f.

Thence a steep climb for 175 yds. and then over undulating ground to another valley at

6m. 1½f.

And continues over gently undulating ground to

6m. 7f.

Thence undulates alternately steeply and then gently to

9m. 3¾f.

Route reaches a col. Thence undulates fairly steeply to

10m. 2¾f.

Crosses a small stream; here a track L.; and continues.

10m. 5½f.

Crosses a stream and here a track to L. Thence steep climb, crossing a stream and at

11m. 1f.

Reaches summit. Thence undulates descending to

11m. 3f.

Reaches a col. Thence climbs, in places, steeply, at

13m. ¾f.

A small track L.

14m. 3f.

Track turns R. at track junction.

14m. 3¾f.

Passes a small village, L. of track.

14m. 6f.

Passes a track to L.

15m. 2f.

Reaches summit.

15m. 3¾f.

Descends and crosses a spur at

16m. ½f.

Climbs over undulating ground to

16m. 2f.

Route bears L. at bifurcation and continues ascent.

16m. 3¼f.

A small track L.

16m. 7½f.

Reaches summit. Here a track L.

17m. ¾f.

Passes HSAWNGLONG.

NOTE.—This stage could be broken between 10 miles and 11 miles where C. G. is possible. This would make the route easier.

ROUTE D-84(A)—concl'd.102m. 5f.**HSANGWONG CAMP.***C.G.*—Good and ample, on hill top.*Water*—Sufficient available.*Fuel*—Available.*Fodder*—Available.*Supplies*—Nil.**Stage 11.****HSANGWONG—PANGHSANG.**

12m.

Marching time for Tps. 5 hrs. 15 mins.

An easy downhill route and a wide track following the same route as Route D-84.

114m. 5f.**PANGHSANG.**For *C.G.*, etc., see Route D-84.**ROUTE D-84-B.****MANHKUM—MANHKUM.**

Length:—199m.

Stages 16.

Epitome—

A wandering path starting from MANHKUM and returning to the same place. Parts of this path coincide with parts of Routes 102, 84, 85 and 88. A well-defined mule track, narrow and passing through country varying from fields to dense jungle. A great deal of the path runs up and down steep hills. Due to lack of bridges, deep, wide rivers cause the track in several stages to be impassable in the rains.

Stage 1.**MANHKUM—KATHINO.**

13m.

The track commences in a southerly direction to Yawngkalun.

3m.

Proceed along centre track where 3 tracks diverge, passing Manhing at

6m.

And Hpañgrem at

9m.

Avoid the left hand branch track at

9m.

And keep bearing right passing through a narrow tunnel to Kawngwawk (Track joins Route D-102). After

10m. 0f.

the track leaves Route D-102 and proceeds until

11m. 0f.

where track joins the main Manchin-Kathino road. Bear

11m. 6f.

left.

13m. 0f.

Kathino.

C.G.—At 12m. 5f.*Water*—Available.*Supplies*—Eggs and chickens only.*Fodder*—Available.

ROUTE D-84-B—contd.**Stage 2.****KATHINO—LONGKWA.**

11m. 6f.

2m. 4f.

4m. 4f.

7m. 2f.

24m. 6f.

Track runs S.W. down to

River Nam Chu (Nam Kro) 15' wide, 2' deep April.
Crossed by frail bridge which is washed away in wet season.
Climb to and take right fork. The river Namma is crossed by
bamboo suspension bridge at

River 60' wide—very deep, not fordable throughout year

Longkwa,

C.G.—Ample.*Water*—Available.*Fodder*—Available.*Supplies*—Nil.**Stage 3.****LONGKWA—KANGHSO.**

9m. 6f.

As reported in Route D-84. Note Route D-84 is joined
at Longkwa.

34m. 4f.

KANGHSO.

Stage 4.**KANGHSO—MANHA MANMAO.**

10m. 4f.

2f.

2m. 0f.

2m. 3f.

7m. 6f.

7m. 7f.

8m. 4f.

9m. 4f.

10m. 4f.

45m. 0f.

Track runs S.W. to

take left fork passing through paddy fields.

Track joins another wider track from Man Mo. Turn
right and then fork left at

The village of Ngek Hse Manmao. On far side of village

take small track to left. Cross Chawk Chang river at

30 ft. wide 1' deep in April. Proceed up steep spur to

Yang Ra (Manha Tao).

Bear left.

Manha Manmao.

C.G.—Good South of village.

Water—From bamboo pipe on left of road 4 furlongs before
entering village.

Fodder—Available.*Supplies*—Nil.**Stage 5.****MANHA MANMAO—HS'UT NO (SA-UT NO).**

10m.

0m. 2f.

2m. 2f.

4m. 6f.

5m. 6f.

7m. 0f.

10m. 0f.

55m. 0f.

Take track going Eastwards and the centre path where the
track trifurcates at

The path goes over a ridge and down into valley to

Taisan (Toisek). Track turns right at and passes through
dense jungle to

where the Matet joins on

Hs'ut No.

C.G.—On spur N.E. of village.*Water*—100 yds. W. of camp.*Supplies*—Nil.*Fodder*—Available.

ROUTE D-84-B—contd.

Stage 6. HS'UT NO (SA-UT NO) (E.9) TO CHONGLONG (E. 10).

11m. As recorded in Route D-84, Stage 5 and Stage 6 (Backwards).

60m. CHONG LONG.

Stage 7. CHONGLONG (E.10) TO NA-HPAN (H. 11).

16m. As recorded in Route D-84, Stage 4 and Stage 5 (Backwards).

82m. NA-HPAN.

Stage 8. NA-HPAN (H.11) TO LOILUN (J. 13).

16m. As recorded in Route D-84, Stage 3 (Backwards).

98m. LOILUN.

Stage 9. LOILUN (J. 13) TO HSONGLONG (J. 15).

16m. 2f. As recorded in Route D-84, Stage 2 (Backwards).

114m. HSONGLONG.

Stage 10. HSONGLONG (J. 15) TO LOILUN (J. 13).

16m. 2f. As recorded in Route D-84, Stage 2 (Slight variation in distance).

130m. 4f. LOILUN.

Stage 11. LOILUN—VINGNGUN.

15m. 4f. Leaving Loilun in easterly direction take path to right of Pagoda. Hpanglun village at thence ridge track going North. Pass left of peak.

3m. 4f. Loi Panong. Take left fork at

5m. 0f. Pass left of peak of Loi Mut-A at

6m. 3f. Thence to a cross track at keep straight on until

8m. 3f. the track bifurcates at

10m. 3f. Then bear right.

15m. 4f. Vingngun.

146m.

C.G.—Good east of main village.

Water—Near camp from bamboos in hillside.

Supplies—Nil.

Fodder—Available.

Stage 12. VINGNGUN—PATO.

7m. Track well defined—avoid small diverging tracks.

2m. 2f. Descend steeply to Chawk Nung river.

5m. 1f. Nam Pang river bridge in dry weather impassable in rains.

ROUTE D-84-B—contd.

7m.

153m.

Pato.

C.G.—Poor.

Water—From bamboos on C.G.

Supplies—Nil.

Fodder—Available.

Stage 13.**PATO—HUMCHOM.**

13m.
1m. 0f.

3m. 4f.
5m. 0f.
9m. 0f.
13m. 0f.

166m.

Bear right through dense forest. Track to left at Manp'long goes to Na-Hpan—continue straight ahead and village of Yawngkhankang at

Keep left of village Yawnghtu.

WAWKLA.

After passing a chain of small villages arrive at Humchom.

C.G.—WAWKLA recommended.

Water—On C.G.

Supplies—Nil.

Fodder—Available.

Stage 14.**HUMCHOM—KAWNGHKA.**

10m. 4f.
4m. 0f.
5m. 0f.

9m. 4f.
10m. 4f.

176m. 4f.

River Nam Lang—unfordable in rains.
River Namma 150' wide and fairly deep.
Bridged in dry season and also fordable, but in rains impassable.

A long steep climb to

The peak of the hill. Follow contour of hill to Kawngkha.

C.G.—Good site.

Water—Available next to C.G.

Supplies—Nil.

Fodder—Available.

Stage 15.**KAWNGKHA—HPANG HSUNG.**

12m. 4f.
13m. 0f.

12m. 4f.

189m.

Loilung.

Cross Nam Nanyit and Nam Umkan, both streams being near the paddy fields.

During last few miles the track is very difficult due to granite outcrops and also the route passing over a number of very deep nullahs.

Hpang Hsung.

C.G.—Good, South of village.

Water—East and West of C.G.

Supplies—Nil.

Fodder—Available.

ROUTE D-84-B—concl'd.**Stage 16.****HPANG HSUNG—MANHKUM.**

10m.		Hahpung.
	3f.	Take narrow track to left and proceed Northwards.
	5f.	Hpak Kum (Taiktat).
1m.	5f.	Nam Chu (Nam Kro).
2m.	0f.	Take right fork and pass through dense jungle.
5m.	0f.	Track again bifurcates—bear left and on to
6m.	6f.	Manchui.
8m.	2f.	Yawngp' long.
9m.	2f.	Manhkum.
10m.	0f.	
199m.	0f.	

ROUTE D-85.**LOILON—MONGHSAW.**

Length :—(approx.) 71m.

7 Stages.

Epitome—

The information about this route was obtained from local agents and therefore cannot be taken as accurate. Information about the crossings of the NAM HSI and NAM HKA rivers is not given; they may prove serious obstacles. In Stages 1, 2 and 3 there are no difficulties. No streams are crossed. Stages 3 and 4 can be double-marched. In Stage 4 the road is good for most of the way and a small stream (no obstacle) is crossed. Two streams, no obstacle, are crossed in Stage 5. Crosses NAM HKA in Stage 6. No bridge. (100 ft. \times 3½ ft.), possible obstacle. No difficulties in Stage 7. A good road generally, climbing up and down most of the way.

C.Gs.—Good throughout.*Water*—Sufficient.*Fuel*—Available.*Fodder*—Available.*Supplies*—Nil.

At LOILON this route joins Routes D-84 and 86.

At MONGHSAW this route joins Routes D-80 and 81.

Stage 1.**LOILON—HPANGLON.**

7m.

A good road. Little climbing. Crosses no streams and passes no villages.

7m.

HPANGLON (Wa, 100h, unfriendly).*C.G.*—Good.*Water*—From MANKAT stream, 100 yds. from *C.G.**Fuel*—Available.*Fodder*—Available.*Supplies*—Nil.

ROUTE D-85—contd.

Stage 2.

HPANGLON—MANGPANG.

16m.

Good road, half uphill and half downhill (crosses no streams). Passes HTONONG (Wa, 100h).

23m.

MANGPANG (40h; Wa; friendly).

C.G.—Good.

Water—From big stream near by.

Fuel—Available.

Fodder—Available.

Supplies—Nil.

Stage 3.

MANGPANG—VINGNGUN.

7m.

A good road, mostly downhill with a few climbs. Passes no villages and crosses no streams.

30m.

VINGNGUN (Wa, 50h, friendly).

C.G.—Good.

Water—From hillside bamboos near *C.G.*

Fuel—Available.

Fodder—Available.

Supplies—Nil.

Stage 4.

VINGNGUN—NAM HSI JUNGLE CAMP.

7m.

A good road most of the way; some bad stretches mostly downhill.

Passes NGAWNG-ARA (Wa, 40h), friendly.

Passes PANGPO (Muhso, 10h), friendly.

Passes KAWNKIT (Wa, 100h), friendly.

Crosses NAM NANG (12 ft. \times 1½ ft.).

37m.

Jungle CAMP NAM HSI.

C.G.—Good.

Water—From NAMKIT *Chaung*.

Fuel—Available.

Fodder—Available.

Supplies—Nil.

Stage 5.

JUNGLE CAMP NAM HSI—PUKALA.

10m.

A good road half uphill and half downhill.

Passes TANGLUT (Loila, 100h, friendly).

Passes TURTE (Loila, friendly).

Crosses NAMKO (No. obstacle).

Crosses NAMLU (No obstacle).

47m.

PUKALA (Wa, 40h, friendly).

C.G.—Good.

Water—From hillside bamboos, and KRONGKA stream near *C.G.*

Fuel—Available.

Fodder—Available.

Supplies—Nil.

ROUTE D-85—concl'd.

Stage 6.

PUKALA—NAM YANG JUNGLE CAMP.

12m.

A good road. Fairly hilly.

Passes VINGSAN (Muhso, 40h, friendly).

Passes MAN KONG (Wa, 50h, friendly).

Passes MAN PLONG (Wa, 35h, friendly).

Here crosses NAM HKA (100 ft. \times 3½ ft.)

No bridge.

Passes MAN KANG (Wa, 80h, friendly).

Passes YEKA-KWE (Chinese-Muhso, 30h, friendly).

59m.

MAN YANG JUNGLE CAMP.

C.G.—Good.

Water—Plentiful from NAM YANG.

Fuel—Available.

Fodder—Available.

Supplies—Nil.

Stage 7.

NAM YANG JUNGLE CAMP—MONGHSAW.

12m.

4m.

A good road climbs to top of ridge. Continues level along ridge and descends into camp.

71m.

MONGHSAW (Shan, 200h, friendly, 3 groups).

C.G.—Unlimited in valley in paddy fields.

Water—Plentiful from NAM SAW.

Fuel—Unlimited from jungle.

Fodder—Grazing in paddy fields and jungle.

Supplies—Negligible—small quantities of paddy and eggs obtainable from the village.

ROUTE D-86.

LOILON—PATO.

Length:—17m. 4f.

1 Stage.

Epitome—

A mule road fit for pack tpt. from LOILON to PATO but impassable to heavy pack tpt. from PATO—LOILON because loads would have to be man-handled for at least 2m. owing to the steep climb from NAM PATO to MAK NAWT. There are some very steep gradients along this route.

C.G.—Available at PATO.

Water—Sufficient for small force but insufficient for a force with many animals.

Fuel—Obtainable.

Fodder—Obtainable.

Supplies—Nil.

ROUTE D-86—*contd.*

Stage 1.

LOILON—PATO.

- 17m. 4f. Track runs level to the N. from LOILON.
 7f. Track descends gradually to MOT DUNG (burnt).
 Thence continues descent.
 3m. Continues down a spur.
 4m. Passes KAWNLANG (Wa).
 4m. 4f. Steep descent to NAM PANG (120 ft. × 2 ft.—flowing
 E.—S.W.—steep banks). Thence track becomes very narrow
 with very steep ascent to KAWN HPANG.
 6m. 3f. Track undulates to another village KAWN HPANG
 (Tpt. moved by a separate route cleared by the villagers).
 7m. 1f. Track climbs steadily up spur due N. and then undulates.
 10m. 5f. Track climbs steadily, due N. up KA KUNG ridge to
 lower KA KUNG (village). Surface of track—good.
 12m. 4f. Track climbs steadily to well stockaded village MAK
 NAWT. Thence becomes narrow and descends steadily
 N.E.
 13m. 5f. Steep descent to MAN PATO stream. Thence undulates
 along l b. of stream.
 16m. 3f. Climbs steadily up a spur (due E.). Very narrow and
 dangerous.
 17m. 4f. Gradual ascent followed by slight descent to
 17m. 4f. **PATO.**

C.G.—300 yds. S.W. of village (cleared by villagers).
Water—From well and bamboo pipe, 250 yds. N.W. of
 camp. Probably not sufficient for a large number of animals.
Fuel—Obtainable.
Fodder—Obtainable.
Supplies—Nil.

ROUTE D-87.

PATO—NAHPAN.

Length :—7m. 4f.

1 Stage.

Epitome—

There are no difficult places on this route. After the
 first steep climb the gradients are all average.

Stage 1.

PATO—NAHPAN.

- 7m. 4f. Leaving camp the route commences with a steep climb
 through village, thence N.W. along the ridge.
 6f. Route passes through skull grove and thick jungle. Track
 continues now being 2 yds. wide.
 1m. 3f. Passes LOILONG (Wa. 16h). Thence undulates through
 old *taungya*. Thence descends down a spur.
 2m. 6f. Track turns N. and descends gradually amongst fir
 trees.

ROUTE D-87—contd.

- 4m. Track undulates and again descends.
 5m. Crosses small stream (5 ft. × 6 ins. flowing E.—S.W.).
 5m. 5f. Recrosses stream and continues through paddy fields.
 After 220 yds. passes PANGWO (Shan, 20h)
 PO HENG circle headman—villagers friendly. Thence undulates through village due W.
 6m. 2f. Passes NACHANG, Po Heng's house 50 yds. right of track.
 7m. 4f. Passes MAN LONG NAO MONG (Shan, 48h) and descends slightly to
 C.G.—in paddy fields.
 Water—From NAM KUNG (100 yds. from camp).
 Fuel—Obtainable.
 Fodder—Obtainable.
 Supplies—Nil.

ROUTE D-88.**NAHPAN—MONGMAO (LOIMU).**

Length:—47m.

5 Stages.

Epitome—

It is not known from what source this information was obtained and it may be very inaccurate. In 1936 it was reported that it was very uncertain if a column could move along this route on account of unfordable rivers. The NAM MA in Stage 3 is reported unfordable being 5 ft. deep in the dry season. The NAM NET (NAM KUNG) is crossed in Stage 5, this is reported to be not very big. No mention of C.Gs. or water supply are given. Mules can traverse the whole distance though they would have to swim the rivers.

NOTE.—At NAHPAN this route joins Routes D-87 and 84.
 At MONGMAO this route joins Route D-89.

THE STAGES ARE:—

- Stage 1. NAHPAN—WAWKLA (MOTNGWE).
 7m.
 Stage 2. WAWKLA—KONGLAI.
 8m.
 Stage 3. KONGLAI—PANGSONG.
 12m.
 Stage 4. PANGSONG—NANYI.
 11m.
 Stage 5. NANYI—MONGMAO (LOIMU).
 9m.

No great difficulties were experienced by a column which made this march in 1936-37.

ROUTE D-89.

MONGMAO—YAWNGHOK.

Length :—approx. 48m.

5 Stages.

Epitome—

This route has not been traversed by a member of the Military or Civil Department. The information given was furnished by a reliable local agent. Nevertheless it cannot be taken as accurate. The route is good and level with excellent camping grounds along it. Each *C.G.* as noted in this report is for 1,000 men and mules, with ample water supply.

- Stage 1.** **MONGMAO—HSI-HSAI.** *C.G.* and water.
 9m. Passes HPAKAW—*C.G.* and water.
 Passes TOKTAT. No *C.G.* but water plentiful.
- Stage 2.** **HSI-HSAI—WA HKA.** *C.G.* and water.
 10m. Passes MANLONG.
- Stage 3.** **WA HKA—WA HI.** *C.G.* and water.
 11m. Passes WA HIN. No *C.G.* but water available.
 Passes YOUNG HAW. *C.G.*; water insufficient.
- Stage 4.** **WA-HI—PA-HA.** *C.G.* and water.
 11m. Passes WA MU. *C.G.* but no water.
- Stage 5.** **PA-HA—YAWNGHOK.** *C.G.* and water.
 7m. Passes PANG WEI. *C.G.* and water.

NOTE.—At MONGMAO this route joins Route D-88.
 At YAWNGHOK this route joins Routes D-74 and 75.

ROUTE D-90.

SA-AWT TAU—MOTLEI.

Length :—6m. 2f.

1 Stage.

Epitome—

The track is 2 ft. wide and fit for all pack tpt. Passing through open grassland.

- Stage 1.** **SA-AWT TAU—MOTLEI.**
 6m. 2f. From camp route runs through both villages and at
 1m. Ascends ridge by gentle gradient.
 2m. 4f. Reaches small stream (1 gallon per minute). Thence
 continues along the ridge and at
 3m. 6f. Route turns L. down a spur.
 5m. 2f. Passes YAWNG NAWNG (Wa, 30h). Thence turns
 N. and crosses a spur.

ROUTE D-90—contd.

 6m. 2f.

MOTLEI (60h).

C.G.—For 2 Coys. between YAWNG NAWNG and MOTLEI.

Water—Ample from streams.

Fuel—Obtainable.

Fodder—Obtainable.

Supplies—Nil.

ROUTE D-91.

SA-AWT TAU—MAN MAW & NALEM CAMP.

Length :—20m.

1 Stage.

Epitome—

The track continually rises and falls. An exceptionally long march. Information about intermediate *C.G.s.* is not given as reconnaissance was done on a forced march.

Stage 1.
SA-AWT TAU—MAN MAW.

20m.

Commences by gentle climb up *taungya* ridge.

1m.

Track turns N.W. along ridge and continues to ascend till it reaches a saddle thence turns W. and descends to track junction. Here a track L. to KAWNG HPA. Thence turns N. W. about 200 yds. above TA HSAI (Wa, 30h).

2m. 6f.

Track climbs and continues N. through thick jungle up TA CHE HILL.

3m. 3f.

Undulates along ridge passing MAWYOI and TA TE (Wa) west of track.

3m. 5f.

Track turns E. and descends.

4m.

Turns N.W. and undulates through TA HSING (Wa).

5m. 2f.

Track descends and climbs *taungya* hill and thence undulates through *taungya* passing RAI MANG (Wa) and TELO, N. of track. After 200 yds. track descends and climbs again continuing on same ridge level.

6m. 6f.

Track turns W. and descends steeply down dry nullah N.E. from MANHA upper villages.

7m. 2f.

Descends gently towards MANHA and turns N.W. about 300 yds. from village.

7m. 7f.

Descends steeply and then gradually to MANHA. After village turns N.E. and continues to descend.

9m.

Continues descent down the CHAWK CHENG stream flowing E.—S.

9m. 7f.

Crosses CHAWK CHENG, thence climbs and at reaches top of the spur.

10m. 3f.

Passes NGEK HSE (Loila, 50h.; headman HPAWNG MONG).

12m.

12m. 4f.

Steep descent to UM PRAO (6 ft. × 5 ins.—flowing S.E.—N.W.). Thence ascends and at

ROUTE D-91—contd.

- 13m. Passes WA hamlet (3h). Thence descends and crosses stream 9 ft. wide and climbs to HPANG HKUM (Wa).
 15m. 1f. Climbs steadily along MAN MAW ridge N.
 18m. 6f. Turns N.W. and undulates to MAN MAW.
 19m. 4f. Turns W. and descends to paddy fields and undulates through NALEM (Shan, 20h). Thence continues descent to
 20m. **MAN MAW.**
C.G.—(a) Paddy fields.
 (b) On low ridge N. across fields.
Water—Obtainable.
Fuel—Obtainable.
Fodder—Obtainable.
Supplies—Nil.

ROUTE D-92.**SALWEEN RIVER CROSSING—PANGYANG.**

Length :—62m. 5 Stages.

Epitome—

Fairly good mule track throughout. There are a number of steep ascents.

C.G.—Vary—large at some stages.

Water—Limited ; bad in Stage 3.

Fuel—Plentiful.

Fodder—Negligible.

Supplies—Negligible.

NOTE.—At river crossing this route joins Route D-33. At PANGYANG this route joins Route D-93.

Stage 1.**SALWEEN CROSSING—MAN HKA.**

- 15m. Mule track climbing gradually.
 4m. 4f. Passes MAN KAWNGHKA (Wa, Shan—8h).
 5m. Passes MAN HPANG (Wa—40h; HQ. of MYOSA of MOTHAI). Here *C.G.* on flat topped hill near *kyaung*.
 Thence passes :—
 MAN OMLONG (10h).
 MAKMU (5h).
 MAN MAU (7h).
 YAWNG KA-RU (30h).
 MAKHI-NU (13h).
 There are a few steep ascents and descents on the way.
 reaches **MAN HKA** (8h).
C.G.—Limited ; $\frac{1}{2}$ m. before reaching MAN HKA.
Water—From stream.
Fuel—Plentiful.
Fodder—Negligible.
Supplies—Negligible.

ROUTE D-92—*contd.*

Stage 2.

MAN HKA—UM-OT.

12m.

Track follows ridge. Fairly easy going.

Passes :—

LOI CHONG (11h).

PANG CHONG (22h).

MONG PAT (22h) $\frac{1}{2}$ m. L. of track.

27m.

reaches **UM-OT.***C.G.*—Large, near *kyaung*.*Water*—Good supply.*Fuel*—Plentiful.*Fodder*—Negligible.*Supplies*—Negligible.

Stage 3.

UM-OT—PANGHSENG.

7m.

Track as in Stage 2. Gradual ascent. Passes no villages.

34m.

reaches **PANGHSENG.***C.G.*—Small—on hill above *kyaung*.*Water*—Bad.*Fuel*—Plentiful.*Fodder*—Nil.*Supplies*—Nil.

Stage 4.

PANGHSENG—PANGKAWM.

13m.

Track rocky. Not so well aligned. Passes under LOI LAM at 6,500 ft.

6m.

Passes HONAM HSAI (bazaar in *pwe* season).

47m.

reaches **PANGKAWM.***C.G.*—Large. Near village.*Water*—Good.*Fuel*—Plentiful.*Fodder*—Negligible.*Supplies*—Negligible.

Stage 5.

PANGKAWM—PANGYANG.

15m.

Track continues level.

7m.

Passes MAN MANHPAKMONG.

10m.

Track begins gradual descent to

62m.

reaches **PANGYANG** (7h Kachin; H.Q. of *SAWBWA* OF MANGLON). (*Sawbwa's* residence in *NAWNGHKIO* 500 ft. higher on hill.) See Route D-93—Stage 6.*C.G.*—Large; near *kyaung*.*Water*—Plentiful.*Fuel*—Plentiful.*Fodder*—Negligible.*Supplies*—Negligible.

ROUTE D-93.

TANG-YAN—WAN PANGHSANG.

Length :—97m. 4f.

10 Stages.

Length by alternative route :—93m.

Epitome—

Road passable to M.T. up to 11m. From thence to MAN LOI-SE a track passable to light cars in dry weather only. Unfit for lorries in its present condition. Even a small quantity of rain would render this last portion unfit for motor traffic. All streams have been bridged. Thence a good mule track to PANGHSANG. Passing mostly through mountainous wooded country to the SALWEEN. Thence generally through dense country with some gradients to WAN PANGHSANG. Surface generally red loam which becomes difficult in the rains. Crosses the SALWEEN at TA MAN-HSUM in Stage 4. Crosses the NAM PANG in Stage 10.

See Route D-5.

NOTE.—An alternative stage to Stages 2 and 3 is attached at the end of this report and is recommended for use in dry weather.

C.Gs.—Space available throughout.*Water*—Available.*Fuel*—Obtainable.*Fodder*—Obtainable.*Supplies*—Nil.

Stage 1.

TANG-YAN—MAN LOI-SE.

14m.

The road is fit for lorries for the first 11m. Thence fit for light cars, in no great number, in the dry weather only to MAN LOI-SE. Crosses many streams and the NAM POK just after leaving TANGYAN. Passes through level, open country for 7½m. and thence through tree jungle in the hill section, where there are some steep gradients and hairpin bends. The stage is bridged throughout.

Marching time for a small column 5½hrs.

2m. 4f.

Passes NAWNGHPAI. Here an alternative route *via* MONGKAO branches R, and route passes the village of LONGHSO. Crosses NAM LIN by bridge (55 ft. × 12 ft. high). Thence after ¼m. another bridge 948 ft. Passes MAN MAU.

7m. 4f.

Passes HUNG MANG (50h.).

9m.

Passes PAHSA (60h.). Passes NAWNGMO. (Now close to road.)

11m. 4f.

Passes NAN TAPLONG MU (40h.) and PANG MO. Here an excellent *C.G.* with water 300 yds. distant from stream. Thence the road climbs and descends, maximum gradient about 1/6, crossing many small streams, and through sharp hairpin bends in two stretches.

14m.

MAN LOI-SE.

C.G.—(a) For 1 Bn. in paddy fields in dry weather.

(b) For 1 Bn. in village and on surrounding slopes with considerable clearing in the rains.

ROUTE D-93—contd.

Water—Plentiful: (a) from stream.

(b) From village well.

Fuel—Plentiful from jungle.

Fodder—Jungle grazing.

Supplies—Negligible. 5th day bazaar.

Stage 2.

MAN LOI-SE—MAN PENGHSAI.

9m.

A good mule track. Surface red loam which becomes very difficult in the rains. Passes through dense mountainous country. Tps. could not operate off the road.

Marching time for small column $3\frac{1}{2}$ hrs.

Road climbs steeply with steep stretches (maximum grade $1/3$).

2m.

Commences descent with gradients $1/4$ to

2m. 6f.

Thence is fairly level passing MAN MAWK HSIO (no houses; well; dry except in rains).

6m. 2f.

Route climbs again with gradient $1/10$. There is a steep drop the last $\frac{1}{2}$ m. before reaching MAN PENGHSAI.

23m.

MAN PENGHSAI.

C.G.—(a) For 1 Bn. in paddy fields; dry weather.

(b) For 1 Bn. on high ground round village; very restricted in rains.

Water—Plentiful.

Fuel—Plentiful from jungle.

Fodder—Jungle grazing.

Supplies—Limited. 5th day bazaar.

Stage 3.

MAN PENGHSAI—MAN NA HANG.

8m.

A good mule track. Passes through dense jungle country with one or two sharp ascents and descents (maximum gradients $1/3$). Tps. could not operate off the road.

Marching time for small column $3\frac{1}{2}$ hrs.

Passes PENGHSAI (old capital).

Crosses 3 small streams with new bridges.

Descends to NAM HANG LI and follows bank of stream.

Descends spur of LOI TANG KANG hill (600 yds. at $1/6$ —with one stretch $1/2$, 100 yds.).

Passes MAN NA KAW.

Crosses NAM MONG (by bridge 44 ft. \times 10 ft. high).

Passes NA KA waterfall. From here dry weather track across paddy fields on river bank. Wet weather track 100 ft. above river on hill side—narrow.

31m.

MAN NA HANG.

C.G.—(a) For 1 Bn. in paddy fields (known as NA KA fields) in dry weather.

(b) For 1 Bn. in rains with considerable clearing.

Water—From stream.

Fuel—Plentiful.

Fodder—Jungle grazing.

Supplies—Nil.

ROUTE D-93—*contd.*Stage 4. **MAN NA HANG—TA MANHSUM FERRY**

(MAN BEIN CAMP 1m. short of river).

8m. A good mule track through dense hilly country with some steep gradients. Tps. could not operate off the road to any extent.

Marching time for a small column 3 hrs.

Leaving C.G. track crosses-over col. with steep gradients.

Crosses NAM SIM, thence undulates to cross NAM KAW at MAN KAWNG KAW by bridge (96 ft. long) in bad repair.

Thence undulates with some steep gradients to

39m. **MAN BEIN HPI.** From here 1m. descent with gradients in some places as steep as 1/2 to TA MANHSUM FERRY.

C.G.—(a) For 1 Bn. on high ground, and on paddy field near village in dry season.

(b) For 2 Coys. using houses of village as billets in rains.

Water—Plentiful from stream near village.

Fuel—Plentiful from jungle.

Fodder—Jungle grazing and paddy.

Supplies—Nil.

NOTE.—(a) For Notes on ferry crossing, see Appendix "River Crossings" at end of book.

(b) There is a restricted C.G. on E. side of river, 400 yds. distant, uphill, just below B.M.P. camp.

Stage 5. **TA MANHSUM FERRY—MAN KAWNYE.**

9m. 4f. A good mule road.

Marching time for small column 4½ hrs.

Runs level along bank of SALWEEN to

1m. ¼f. And at

1m. 2f. Crosses NAM NE by temporary bridge (57 ft. long).

Thence ascends steeply with gradients of 1/3 and 1/2 for short stretches to

6m. 2f. Passes NAM UMHKUNG. Thence undulates along top of ridge to

48m. 4f. **MAN KAWNYE.**

C.G.—Restricted.

Water—Bad. From well 300 yds. below C.G.

Fuel—Available.

Fodder—Available.

Supplies—Nil.

Stage 6. **MAN KAWNYE—PANGYANG.**

13m. A good mule track through dense jungle with steep gradients.

Tps. unable to operate off the road to any extent—
Marching time for small column 5½ hrs.

Passes MAN NGEKKANG.

Passes MAN PAN HAWN (pt. 4550).

Thence descends steeply to NAM LONG valley.

6m. Crosses NAM LONG by bridge (30 ft. × 4 ft. high).

Thence ascends steeply (1/2—1/3) to

ROUTE D-93—*contd.*

6m. 2f. Thence less steeply—Track is new and in good condition, cut out of hill side.

Gradients of $1/10$ — $1/15$.

Crosses five mountain streams by good wooden bridges in last section.

61m. 4f. **PANGYANG (NAWNGHKIO)** (Capital of SAWBWA of MANGLUN whose *Haw* overlooks the village).

C.G.—Excellent.

Water—Available.

Fuel—Available.

Fodder—Limited; possibly available.

Supplies—Nil.

Stage 7.

PANGYANG—KATMAW.

7m. 4f.

A good mule track undulating through small tree jungle. Tps. could operate off the road to some extent.

Marching time for a small column 3 hrs.—Undulates to

1m.

Crossing two mountain streams—

(a) by bridge (40 ft. long \times 15 ft. high);

(b) by bridge (21 ft. long \times 12 ft. high).

Several other streams are crossed but are no obstacle.

Thence track descends to

1m. 6f.

Thence level to

4m. 2f.

Ascends steeply to

4m. 6f.

Thence gradually to

6m.

Where there is a steep descent and ascent to

69m.

KATMAW.

C.G.—Very small; dirty.

Water—Fair supply—100 yds. downhill.

Fuel—Available.

Fodder—Available.

Supplies—Nil.

Stage 8.

KATMAW—MAN NAM TANG (HOTANG).

13m.

A good mule track through mountainous country with some steep gradients.

Marching time for a small column $5\frac{1}{4}$ hrs.

1f.

Track goes back to join route at thence continues a gradual descent about $1/15$ until the last $\frac{1}{2}$ m. into MAN-HO-MAW, where slope is $1/5$ with a 200 yds. stretch of very bad surface crossing two small streams.

Thence steep ascent for 3m. Whence follows, in general, the top of the ridge with some steep gradients to junction of YAWNG AW and MAN HSENWI tracks at MAN KAO (no village). Here track is new with a good surface and undulates with some steep gradients eventually descending gradually in the last mile to camp at

82m.

MAN NAM TANG (MAN HO TANG).

C.G.—Available.

Water—Available.

ROUTE D-93—contd.

Fuel—Available.*Fodder*—Available.*Supplies*—Nil.

NOTE.—There is an alternative route to this to MAN PANG POI which is attached at the end of the route. This route was used by the B.B.C. and Escort 1936-37.

Stage 9.

MAN NAM TANG—MANG PANG POL.

7m. 4f.

A mule track through mountainous country with several steep gradients.

Marching time for a small column $2\frac{3}{4}$ hrs.

From camp track climbs for $\frac{3}{4}$ m.—gradient $1/7$. Thence descends with a gradient of $1/10$ (2 short stretches of $1/2$).

Thence follows the line of the ridge with downward trend.

After 2 hrs. marching track commences descent to MAN PANG POI, gradual at first thence a steep descent zig-zagging down the spur. Gradient $1/5$ — $1/6$ with occasional steeper stretches.

89m. 4f.

MAN PANG POI. (C.G. is 100 ft. above NAM PANG river).

C.G.—Available.*Water*—From small stream 100 yds. distant.*Fuel*—Available.*Fodder*—Available.*Supplies*—Nil.

Stage 10.

MAN PANG POI—WAN PANGHSANG.

8m.

A mule track through mountainous country, marching time for a small column 3 hrs.

Descends to NAM PANG (120 ft. \times 20 ft. deep—swift current). There is a bridge here, but it is not expected to last for long; boatmen can be obtained from PANG POI for ferrying.

Passes WAN KAWNGHKA.

Passes WAN KIU-HE.

Thence descends and crosses HWE NAM NAT (10 ft. \times 1 ft. deep—no bridge).

After $\frac{1}{4}$ m. crosses HWE NAM LAWT (12 ft. \times 1 ft. deep) which flows along the track for 200 yds. Orders have been given for these two streams to be bridged.

Thence track climbs a flight of steps 8 ft. high.

Passes WAN MAU.

Passes WAN MALAWT.

Thence through paddy cultivation crossing three or four small streams (no obstacle) to

97m. 4f.

WAN PANGHSANG.

C.G.—Excellent with huts.*Water*—Available.

ROUTE D-93—concl'd.

Fuel—Available.
Fodder—Available.
Supplies—Nil.

ROUTE D-93-A.**ALTERNATIVE ROUTE—KATMAW—MAN PANG POI**

This was the route used by the B.B.C. in 1936-37.

Alternative Stage 8.**KATMAW—WAN NAMPANG.**

8m.

Marching time for a small column 4 hrs. A difficult and tiring march. Descends through dense jungle to

4m.

Thence along the HWE NAM MAWN valley continually wading the stream, crossing it 49 times in all. The descent to HWE NAM MAWN valley has, in places, a gradient of $\frac{1}{4}$.

Passes MAN KUN MON.

Passes MAN NA MAWN. Surface of path being badly rutted. Thence valley narrows to a gorge with steep rocky sides and the width of the river, only, at the bottom, for $\frac{1}{4}$ m. thence opens out again.

8m.

Passes NAM NA NIU on l b. of river. Track continues along valley and finally ascends for $\frac{1}{4}$ m. to

WAN NAMPANG.

C.G.—Excellent, with huts.

Water—Available, 500 yds. distant.

Fuel—Available.

Fodder—Available.

Supplies—Nil.

Alternative Stage 9.**WAN NAMPANG—MAN PANGPOI.**

7m.

Marching time for a small column $3\frac{1}{4}$ hrs.

Track descends and crosses a stream and thence climbs and descends with gradients as steep as $\frac{1}{3}$. Surface of track bad in places.

Passes WAN PANGYOM. Thence descends to r.b. of NAM PANG. Thence easy marching undulating along bank of river.

Passes MAN HSUP MAWNG where the NAM MAWN joins the main river from the North. This is the site of ferry and a dry weather ford. Thence track continues with no difficulties.

15m.

C.G.—Near new bridge over the NAM PANG, below spur on which is MAN PANGPOI.

Water—From stream 100 yds. distant. Excellent supply.

Fuel—Obtainable.

Fodder—Obtainable.

Supplies—Nil.

ROUTES IN WA STATES.

ALTERNATIVE ROUTE TO STAGES 2 and 3 of ROUTE D-93.

Length:—12m. 4f.

1 Stage.

Epitome—

This route is passable for a column with mule tpt. after normal rain. During heavy rain it is considered that this route might be dangerous. Normal marching time for Tps. 5—5½ hrs. The route holds no difficulty for a long column of mules.

MAN LOI-SE—MAN NA HANG.

Alternative

Stage 1.

12m.

MAN LOISE VILLAGE CAMP. (This C.G. is 3m. above the Military Camp and is therefore cooler.)

C.G.—For 2 Coys., with 2 well made huts for officers and 7 other long huts.

Water—Ample and good.

Fuel—Available.

Fodder—Available.

Supplies—Negligible.

Leaving camp the route undulates with gradients never more than 1/5 (mostly climbing).

3m. 6f.

Pass turning to MAN LOI-SE V/T station (sig.), and then route descends.

4m. 2f.

Reaches a cauldron area with no water.

4m. 6f.

Route leaves the mainroad, turning L. Thence climbs for 50 yds. to top of ridge and descends steeply for 100 yds. and then again climbs.

5m.

Reaches level cauldron area, through very thin scrub jungle giving no shade; otherwise good site for a halt. Thence steep descent (gradient varies 1/3—1/5) through open country. Surface covered with 1 in. to 2 ins. of red brown dust and might be dangerous in heavy rains. Continues descent through thin tree jungle.

5m. 6f.

Reaches a level stretch (suitable for a halt). Thence descends a spur (1/3—1/5) through light forest. Then route undulates between two hillsides through light forest country.

6m. 4f.

Reaches a level stretch (suitable for a halt). Thence descends through thin woods to another small level stretch with paddy fields L and scrub jungle, and then climbs to pass through a village.

7m. 4f.

Route descends bearing L at fork track junction.

8m.

Continues crossing a small stream three times and at

Bears L (General direction S.E.). Thence route descends for ½ m. and continues to

12m. 4f.

MAN NA HANG CAMP.

C.G.—(a) 1 Bn. paddy fields in dry weather.

(b) 1 Bn. with considerable clearing in rains.

Water—From stream.

Fuel—Plentiful.

Fodder—Jungle grazing.

Supplies—Nil.

NOTE.—This route is less tiring than Stages 2 and 3 and is 4m. 4f. shorter. It is recommended for use in the dry weather.

ROUTE D-93-B.

PANGYANG—HSWANLONG via TE-MOE.

Length:—43m. 0f.

3 Stages.

Epitome—

An alternative to the PANGYANG—HSWANLONG route which runs through WAN PANGSANG. It is 4m. shorter, and said to be a more pleasant route. There is only one steep gradient (in Stage 2) and the route is a good mule track throughout. The NAM PANG is crossed in Stage 2 by a light bridge (capable of taking 2 men) and a ford. This might prove impassable in the rains. The route was reported on in June, and although in the dry season, the mules had to be unloaded.

Stage 1.

PANGYANG—TE-MOE.

16m.

Approximate marching time 8 hrs.

The route follows the main PANGYANG—PANGSANG route to

7m. 4f.

KAT MAW where it branches L and runs level to

8m. 4f.

From here it descends slowly to

9m. 4f.

Thence level to

11m. 4f.

MAN HKUM (TE-MOE WA 7h.).

12m.

SARUP MAN LONG (TE-MOE WA).

13m.

SARUP MAN MAU (TE-MOE WA).

14m.

SARUP MAN NO (TE-MOE WA 20h.).

Thence follows along a ridge to

16m.

TE-MOE.*C.G.*—No information.*Water*—No information.*Fuel*—No information.*Fodder*—No information.*Supplies*—No information.

Stage 2.

TE-MOE—PANGHPAK.

13m.

A good mule track throughout averaging 6 ft. Approximate marching time 9 hrs.

2m.

Track descends from *C.G.* at first gradually to and then steeply to

3m.

NAM PANG (120 ft. × 40 ft.) crossed by a rough suspension bridge capable of taking 2 men—ford 200 yds. down stream. Mules must be unloaded; to cross in the rains would be very difficult and might be impossible.

4m.

Route ascends very steeply, gradient 1/4 to

7m.

PANGKOK (WA 9h.) and thence gradually to

8m.

Whence level to

Here a track R to UPPER KOLONG (WA 27h.) and LOWER KOLONG (WA 14h.) approximate distance 1m.

8m. 4f.

Thence descends steeply to

10m. 4f.

And then gradually to

VENG (WA 20h.).

Thence along a ridge to

ROUTE D-93-B—contd.

29m. **PANGHPAK** (WA, Chinese 15h.).

C.G.—Two good *zayats* available.

Water—No information.

Fuel—No information.

Fodder—No information.

Supplies—No information.

Stage 3.**PANGHPAK—HSWANLONG.**

14m. Approximate marching time $5\frac{1}{2}$ hrs.

Average width 6 ft.

Track runs level to

3m. **MAN MAO** (MOHSO 15h.).

Whence a steep descent to

4m. 4f. From here ascends by easy gradients to

8m. **TA AW AWN** (WA 30h.).

Thence descends easily to

9m. where the gradient becomes steep.

9m. 4f. Track enters a broad valley and follows it, ascending gradually to

11m. From here follows a ridge passing, at

11m. 4f. **NAM NTUNG** (WA 4h.).

Whence to

43m. **HSWANLONG**. (Shan—Chinese—60h.).

C.G.—For 3 Coys. W. of village.

Water—Ample.

Fuel—Ample.

Fodder—Ample.

Supplies—Nil.

ROUTE D-94.**KATMAW—TAKUT.**

Length :—10m.

1 Stage.

Epitome—

Though this route exists, no information about it is available.

NOTE.—At KATMAW this route joins Route D-93.

ROUTE D-95.**MI-HPA-KU CAMP—MONGHSAW.**

Length :—17m.

2 Stages.

Epitome—

This route crosses the POLA SHE ridge by the LABA saddle from E. to W. The track is good for heavy mule tpt. and well graded except for some short steep ascents and descents.

ROUTE D-95—contd.

A shortage of water supply over the route is noticeable during the dry season. First stage is very dusty and traverses for the first 5m. a very much used commercial track. Second stage travels along ridge, rising for 2m. then descending in parts steeply to MONGHSAW valley where ample C.G. is found on broad flat paddy fields on the NAMHSAW river. Total $7\frac{3}{4}$ hrs. march for Tps.— $5\frac{3}{4}$ hrs. march for Chinese mules.

Stage 1.

MI-HPA-KU CAMP—HSIN-BA-CHANG CAMP.

- 9m. 7f. Track leaves camp in S. W. direction climbing steeply through long grass.
 $4\frac{3}{4}$ hrs. march for troops— $4\frac{1}{2}$ hrs. for Chinese mules.
- 1m. Reaches broad road on ridge and continues along it to S., undulating gently.
- 1m. 3f. Path goes to L. from track to HSAWA and HOMA DADE.
- 4m. 1f. Track descends steeply.
- 4m. 5f. Track reaches and joins broad road HA MANTON-
 AKA VALLEY, and continues S. towards AKA VALLEY
 for 25 yds. then turns R. at bifurcation down a steep descent.
- 4m. 7f. A rough path goes to R. from track to cultivated fields.
- 5m. 2f. Track reaches stream, tributary of NAMLWE, 3 yds.
 broad, fords it twice, and begins to rise, continuing alongside
 of hill to S.
- 6m. 1f. A path goes from R of track up the hill. Track is well
 defined and numerous small paths lead from it on both sides.
- 7m. 1f. A broad path L to PANGLONG.
- 7m. 5f. Track rises, in places steeply, through jungle.
- 8m. A broad path leaves L from track.
- 8m. 3f. Track passes spring on L, and immediately after this
 a path sharp L from track.
- 8m. 4f. Track crosses broad path, L to LABA, R into forest.
 Track bears R along hill, well defined.
- 9m. 5f. Track crosses very small stream. Track reaches HSIN-
 BA-CHANG. C.G. on left turf and paddy fields (40h.).
- 9m. 7f. **HSIN-BA-CHANG C.G.** ($4\frac{3}{4}$ hrs. march for troops;
 $4\frac{1}{2}$ march Chinese mules).
 C.G.—In two parts, very steep paddy fields and uneven
 rocky grass. Sufficient for 1 Bn. Height 5,700 ft.
 Water—Very meagre supply from trickle at 9m. 5f.
 150 gallons an hour in January.
 Fuel—A certain amount to be cut from jungle.
 Fodder—Some grass and paddy.
 Supplies—Negligible. Very few chickens and eggs.

Stage 2.

HSIN-BA-CHANG—MONGHSAW.

- 7m. 1f. Track rises from camp to travel along the ridge, well
 defined, rising in undulations, through jungle.
- 3f. 3 hrs. march for troops; 1 hr. 20 mins. for Chinese mules.
- 5f. A broad rocky path leaves to R of track.

ROUTE D-95—concl'd.

- A path leaves to L. of track.
- 1m. 1f. A series of 4 nullahs on R. of ridge are crossed. Very muddy but with a certain number of rocks. Very little running water. All are forded.
- 1m. 6f. A bigger stream left to right is forded, but only 3 ins. water.
- 1m. 7f. A village is visible on R. of hill. Height of 6,100 ft. is reached, and track descends, in places steeply.
- 2m. 4f. Path leaves to R of track.
- 2m. 5f. Path leaves to L of track.
- 3m. Path leaves to R of track.
- 3m. 1f. Path leaves to L of track.
- 3m. 5f. Track passes over a crossing path.
- 4m. Track passes over a crossing path.
- 4m. 1f. Broad path leaves to R of track.
- 5m. 2f. Path leaves to YALAW R of track.
- 5m. 5f. Track crosses saddle of hill and bears L.
- 6m. 2f. Track reaches river NAM HSAW. Height 3,700 ft. Track travels down the river, fording it 4 times, width 10 yds., depth 6 ins. along valley of broad, wide paddy fields.
- 17m. **MONGHSAW CAMP.**
Height 3,650 ft. 600 yds. N. of river from MAN KAN village.
C.G.—Ample for any force on wide flat paddy fields.
Water—Ample from swift river NAM HSAW.
Fuel—To be obtained from jungle 500 yds. away.
Numerous bamboo groves.
Fodder—Little grass, ample paddy.
Supplies—Fair quantity. Chickens, eggs, pigs, oxen, fruit, from MONGHSAW.

ROUTE D-95-A.

ALTERNATIVE ROUTE FROM HSIN-BA-CHANG—
MONGHSAW.

Length :—7m. 7f.

1 Stage.

Epitome—

This route is 3f. longer than the 2nd Stage of Route D-95 but it runs with more gentle gradients "en route".

Stage 1.

HSIN-BA-CHANG—MONGHSAW.

- 7m. 7f. To begin with this route follows along the same broad track as Route D-95.
- 5m. 5f. It leaves the main track and becomes a narrow path undulating gently along the ridge.
- 6m. 5f. Crosses a stream (12 ft. deep ; muddy bed ; 6 ins. deep).
- 7m. 2f. Passes good, wide, flat paddy fields *C.G.*
- 7m. 5f. A path branches R to LI HKAN.
- 7m. 6f. The road bifurcates (a) L to *C.G.*
(b) R along N. b. of river to MONGHSAW.
- 7m. 7f. The route reaches MONGHSAW (135 h.).

ROUTE D-96.

MONGHSAW—YALAW.

Length :—4m. 3f.

1 Stage.

Epitome—

This route is short but very steep with two ascents and one descent. Track when descending becomes a narrow, rocky path, passable with difficulty by Government heavy mules.

C.G.—Is sloping, short grass.

Stage 1.

MONGHSAW—YALAW.

4m. 3f.

2 hrs. March for troops.

Leaving MONGHSAW Camp route goes back along a long road to LABA-EAST, passing up NAM HSAW valley of flat paddy fields, fording river four times.

1m.

Route turns left to ascend track 1/8. Dusty. 8 ft. wide. Small stream runs down the track for 50 yds. then point is reached where stream flows on the track from right. Jungle is now passed through.

1m. 5f.

Path leaves sharp L from route.

1m. 6f.

Route reaches ridge and becomes flat.

1m. 7f.

Route leaves to L of broad path by narrow path, and begins to descend. Route path not marked on ANGWIN'S Map. Route now goes through small trees and long grass.

2m. 1f.

Nullah and stream to L is crossed.

2m. 4f.

Route begins to descend steeply, average 1/4.

3m.

Path bifurcates, route to R. Route now passes through tall trees and heavy jungle.

3m. 1f.

Route fords small rapid stream 2 ft. wide, turns R and travels up stream to ford 4 yds. wide 6 ins. deep, then ascends steeply, average 1/4.

3m. 3f.

Path leaves route sharp left.

3m. 4f.

Path leaves route sharp left. Immediately after this, a path leaves route at fork to R.

3m. 5f.

Path leaves route sharp R. Route now runs through small trees and long jungle grass.

3m. 6f.

Path leaves to right of route. Ascent finishes its steep rise but continues to rise at 1/10.

3m. 7f.

Path leaves to right of route.

4m.

Distinct path leaves sharp L from route.

4m. 1f.

Path to right of broad route leads steeply downhill 1f. to C.G.

4m. 3f.

Path leaves to L of route at right angles. Path to R. of route at right angles to WA village of YALAW (10h.).

YALAW CAMP.

C.G.—Sloping; short grass; sufficient for two companies.

Water—From stream 600 yds. steeply down to W.P. takes 1 hr. to reach W.P.

Fuel—Ample from jungle.

Fodder—No paddy; some grass.

Supplies—Nil.

ROUTE D-97.

MONGHSAW—MONGHKA.

Length :—17m. 1f.

2 Stages.

Epitome—

The track leaves MONGHSAW running W across paddy fields, thence climbs steeply, with gradient of $1/2\frac{1}{2}$, up a ridge and continues N along the ridge. Then descends steeply ($1/2\frac{1}{2}$) to cross the NAMHKA to C.G. in stage 1. In stage 2 the route climbs W. through open jungle ($1/9$) thence climbs and descends steeply in places for 3 miles, thence continues for $2\frac{1}{2}$ miles along good broad track and undulates fairly gently to the MONGHKA ridge up which it climbs through open scrub country. The track is a well used trade route, broad and fit for mule tpt. in the dry weather. Passable with difficulty in the rains.

NOTE.—This route is passable to all mules in February. It is however advisable to attach a detachment S. & M. to the Advanced Guard to clear obstructions and repair the road where it would delay mules.

C.Gs.—(a) For 1 Coy. in Stage 1.

(b) For 1 Bde. in Stage 2.

Water—Sufficient from streams.

Fuel—(a) Plentiful in Stage 1.

(b) Scarce in Stage 2.

Fodder—(a) Ample grazing Stage 2.

(b) Nil in Stage 1.

Supplies—(a) Plentiful in Stage 1.

(b) Nil in Stage 2.

Stage 1.

MONGHSAW—NAMHKA CAMP.

8m. 3f.

$4\frac{1}{2}$ hrs. march for Tps. 5 hrs. for Chinese mules.

The route leaves MONGHSAW by N gate running W across paddy fields descending steeply for 20 yds.

1f.

Crosses NAM HSAW by ford or plank bridge (15 ft. \times 6 ins.), and then rises steeply for 20 yds. to descend gently across paddy fields.

2f.

Recrosses NAM HSAW by wooden bridge (roofed—18 ft. long). Animals cross by ford (15 ft. \times 6 ins.) and then turns L passing MAN KUI on R.

4f.

Leaves NAM HSAW and climbs steeply ($1/2\frac{1}{2}$).

7f.

A path R to MONGHSAW LAKE.

2m. 3f.

A cross track (a) L to KA HSANG—(S); (b) R. down spur to MONGHSAW LAKE.

2m. 6f.

Track bifurcates (a) L on to MONAWNG ridge 1m. 4f. (b) R (correct route) round hill into large nullah.

3m. 1f.

Crosses small nullah (2 ft. shallow stream) and inclines N along ridge (6,000 ft.).

4m.

A path R to MONGHSAW and MONGHSAW LAKE after 100 yds., the track turns W and descends in places steeply ($1/2\frac{1}{2}$) along a spur, the jungle getting heavier as the route descends.

5m.

A path to L.

ROUTE D-97—contd.

- 6m. 1f. The route climbs.
 6m. 2f. Again descends a spur through dense jungle on R and cleared on L.
 6m. 4f. Descends steeply ($1/2\frac{1}{2}$ gradient).
 6m. 6f. A path branches L.
 ..6m. 7f. A path crosses route.
 7m. A path to L.
 7m. 1f. A broad path to L.
 7m. 2f. A narrow path to R.
 7m. 3f. A narrow path to R which passes WA KA (40 h.). Here C.G. for 1 Coy. immediately W of village. Continues to descend steeply.
 8m. 2f. Crosses nullah. Small trickle of water E—W. Thence crosses NAM HKA (120 ft. \times 3 ft. fordable in dry season) with old broken rope bridge.
 8m. 3f. **NAM HKA CAMP** (on W. b. of river—on grass— 100 yds. \times 30 yds.).
 C.G.—For 1 Coy.—Good.
 Water—From river.
 Fuel—Plentiful from jungle.
 Fodder—Nil.
 Supplies—Negligible. Limited quantities of chickens from WA KA.

NOTE.—There is an alternative route from MONGHSAW to NAM HKA CAMP. This route is shorter by 1f. but is more difficult for mules being steeper, more rocky and uneven and is therefore NOT recommended.

Stage 2.

NAM HKA CAMP—MONGHKA.

- 8m. 6f. Roughly $3\frac{1}{2}$ hrs. march for Tps. $4\frac{1}{2}$ hrs. march for mules.
 The route climbs W from NAM HKA a good, red earth path through cleared jungle.
 4f. A path to L.
 5f. A path crosses route and after 20 yds. there is a path to R. Route now climbs through jungle with some gradients of $1/2$.
 7f. A path L to WAN P'LONG (Wa). Here C.G. for 2 Coys. on R of track. The route passes along a ditch N of village.
 1m. Passes a plank bridge over ditch to WAN P'LONG.
 1m. 5f. A path to L.
 1m. 6f. A path to L.
 1m. 7f. A flat stretch 200 yds. long. Good for a halt.
 2m. Route climbs ($1/2$) and after a bit ($1/3$) entering grass.
 2m. 2f. Reaches top of large knoll (survey point 4,350 f.) passing a path to R, then descends steeply through cultivation.
 2m. 6f. Continues over flat fields.
 3m. A narrow path descends steeply L. [This is Alternative Route (D-97-A).]
 5m. Crosses a saddle and then a re-entrant.
 5m. 4f. A path to R and a path L.D. 97-B.
 5m. 5f. Climbs at gradient of $1/3$.

ROUTE D-97—*contd.*

- 6m. A path to L.
 6m. 2f. Crosses muddy nullah (1 ft. \times 1 in.).
 6m. 6f. Crosses stream by 5 yd. rock bridge and crosses a nullah.
 6m. 7f. Follows the line of a muddy stream for 20 yds. Thence fords small stream by stones and undulates gently, with some gradients of $1/4$.
 7m. Crosses spur and descends; thence bears R (W).
 7m. 1f. Crosses NAM HWE LONG (5,580 ft.) (9 ft. \times 1 ft.) and a path L to PANG HSUK. Thence climbs at gradient of $1/4$.
 7m. 5f. Crosses route to MAN NAM HWE LONG visible 600 yds. L.
 7m. 7f. A path to L. Thence climbs MONGHKA ridge. Surface good, hard earth 10 ft. wide, passing through MONGHKA village and thence round knoll. Crossing the stream just before reaching at
 17m. 1f. **MONGHKA CAMP.**
C.G.—Sufficient for 1 Bde.
Water—Ample from streams.
Fuel—Scarce; has to be obtained from the hilltops to S.
Fodder—Sufficient grass. Little paddy.
Supplies—Negligible. Villagers unfriendly! Earth useless to make ovens.

ALTERNATIVE ROUTE D-97-A.

MONGHSAW—MONGHKA via HPA KL'A (LI HSAW).

Length:—23m. 2f.

4 Stages.

Epitome—

This is an alternative route to D-97 and is only reported upon for use when Route D-97 is, for any reason, impassable. This Route follows D-97 to NAMHKA and thereafter for 3 miles in stage 2. Thence it becomes a narrow path and turns L descending steeply; thence climbs with gradient of $1/6$ through thick jungle up MONGHKA ridge and continues E along it. Stage 3 is an easy march through thin jungle grass above stage 2. Thence a short march in stage 4 through light jungle with occasional short steep stretches of $1/2\frac{1}{2}$ to 3m. 2f. where it rejoins Route D-97 and continues along it to MONGHKA CAMP.

This route is passable to all mules in February. It is, however, advisable to attach to the advance guard a detachment of S. & M. to clear obstructions and to repair the road where it would delay mules.

C.G.—(a) For 1 Coy. in stages 1 and 3.

(b) For 2 Coys. in stage 2.

(c) For 1 Bde. in stage 4.

Water—Ample in all stages.

ROUTE D-97-A—contd.

Fuel—Plentiful in stages 1 and 2.

Scarce in stages 3 and 4.

Fodder—Nil in stage 1.

Available in stages 2, 3 and 4.

Supplies—Negligible. Limited supply of fowls, paddy, and some oxen. The villagers of MONGHKA are unfriendly.

Stage 1.

MONGHSAW—NAM HKA CAMP.

8m. 3f.

4½ hrs. march for Tps. 5 hrs. for Chinese mules.

The route leaves MONGHSAW by N gate running W across paddy fields descending steeply for 20 yds.

1f.

Crosses NAM HSAW by ford or plank bridge (15 ft. × 6 ins.) and then rises steeply for 20 yds. to descend gently across paddy fields.

2f.

Recrosses NAM HSAW by wooden bridge (roofed—18 ft. long). Animals cross by ford (15 ft. × 6 ins.). And then turns L passing MAN KUI on R.

4f.

Leaves NAM HSAW and climbs steeply (1/2½).

7f.

A path R to MONGHSAW LAKE.

2m. 3f.

A cross track (a) L to KA HSANG (S).

(b) R down spur to MONGHSAW LAKE.

2m. 6f.

Track bifurcates (a) L on to HONAWNG ridge 1m. 4f.

(b) R (correct route) round hill into larger nullah.

3m. 1f.

Crosses small nullah (2 ft. shallow stream) and inclines N along ridge (6,000 ft.).

4m.

A path R to MONGHSAW and MONGHSAW LAKE, after 100 yds. the track turns W and descends in places steeply (1/2½) along a spur, the jungle getting heavier as the route descends.

5m.

A path to L.

6m. 1f.

The route climbs.

6m. 2f.

Again descends a spur through dense jungle on R. and cleared on L.

6m. 4f.

Descends steeply (1/2½ gradient).

6m. 6f.

A path branches L.

6m. 7f.

A path crosses route.

7m.

A path to L.

7m. 1f.

A broad path to L.

7m. 2f.

A narrow path to R.

7m. 3f.

A narrow path to R, which passes WA KA (40h.). Here C.G. for 1 Coy. immediately W. of village. Continues to descend steeply.

8m. 2f.

Crosses nullah. Small trickle of water E—W. Thence crosses NAM HKA (120 ft. × 3 ft.—fordable in dry season) with old broken rope bridge.

8m. 3f.

NAM HKA CAMP (on W.b. of river—on grass—100 yds. × 30 yds.).

C.G.—For 1 Coy.—Good.

Water—From river.

Fuel—Plentiful from jungle.

ROUTE D-97-A—contd.

Fodder—Nil.

Supplies—Negligible. Limited quantities of chickens from WA KA.

NOTE.—There is an alternative route from MONGHSAW to NAM HKA CAMP. This route is shorter by 1f. but is more difficult for mules being steeper, more rocky and uneven and is therefore NOT recommended.

Stage 2.

NAM HKA—HPA K'LA.

6m. 4f.

(NOTE.—For continuity the first 3 miles of stage 2 of Route D-97 are reprinted in this route.)

3½ hrs. march for troops; 6 hrs. for mules.

The route begins to climb to the W. from the NAM HKA as a good path, red earth, a gradient of 1/9, through cleared jungle.

4f. Path leaves to left from route.

5f. Path crosses route, and 20 yds. further, path leaves sharp R. from route which now passes through jungle with some ascents of 1/2.

7f. Path leaves to village WAN P'LONG (Wa) to L. C.G. on right of route for 2 Coys. Route passes along ditch on N of village.

1m. 1 Path passes bridge (plank) across ditch to WAN P'LONG to L.

1m. 1f. Path leaves sharp L. from route to WAN P'LONG (3,350 ft.).

1m. 5f. Path leaves to L. of route.

1m. 6f. Path leaves at right angles to L. from route.

1m. 7f. Flat stretch, 200 yds. long good for a halt.

2m. Route ascends with gradient of 1/2, becoming 1/3, on entering grass.

2m. 2f. Route reaches top of large knoll, Survey Pt. (4,350 ft.) Passing, path turning to sharp R. Route now descends, steeply through cultivation.

2m. 6f. Route continues over flat fields.

3m. Route leaves by narrow path L. from road to MONGHKA, (4,100 ft.) and descends steeply. Now becomes D-97-A proper.

3m. 1f. Route reaches dry nullah and ascends steeply, travelling S along E face of ridge.

3m. 3f. Route crosses dry nullah to rise, at an angle of 1/1½ in places.

3m. 7f. Route reaches S'ME JUI (45h.) (4,400 ft.) and moves round W side of village, continuing to undulate steeply, mainly ascending.

4m. Path crosses route which now descends through bushes, passing several paths to L. to S'ME JUI.

4m. 1f. Two paths leave sharp L. to S'ME JUI from route, which crosses dry stream bed.

4m. 2f. Route crosses ditch which is generally also fenced.

4m. 4f. Path leaves to left from route, which descends to cross steep rocky bed of stream to nullah, 4 ft. wide, 2 ins. deep, by narrow path.

ROUTE D-97-A—contd.

- 4m. 5f. Path to left to MAW PAW crosses route.
 4m. 6f. Path leaves to R. of route which crosses by a narrow path steep dry rocky bed of stream in nullah, to climb very steeply.
 5m. 1f. Path leaves to L. route at top of spur, to village WING HSANG.
 5m. 3f. Route crosses stream 4 ft. wide, 2 ins. deep. Path leaves to L. from route.
 5m. 4f. Route crosses small nullah, and 20 yds. further on path leaves to R. of route.
 5m. 5f. Path leaves to L. of route, to village WING HSANG. Route rises very steeply, angle $1/1\frac{1}{2}$.
 6m. 2f. Route reaches top of spur.
 6m. 3f. Route passes C.G. for two companies, small stream. Route fords stream, 2 yds. wide, 6 ins. deep, and enters C.G. on N. of village HPA K'LA (4,850 ft.).
 14m. 7f. **HPA K'LA** (Wa, Loi, Muse, 3 Chinese families 40h).
 C.G.—Good; turf; sufficient for 2 Coys.
 Water—Ample from stream.
 Fuel—Sufficient from local woods.
 Fodder—Some grass and paddy.
 Supplies—Chickens, eggs, pigs, some oxen from HPA K'LA.
 Tactical Position—Sound.

Stage 3.

HPA K'LA (4,853 ft.)—PANG HSUK (5,950 ft.)

- 3m. 4f. 2 hrs. march for Tps. and mules.
 Route leaves C.G. to move W up stream, climbing at an angle of $1/8$.
 1f. Route turns R. to cross stream by plank bridge 3 ft. wide, 10 ft. long, and continues N. 20 yds. further path leaves route sharp R.
 2f. Path crosses route, which continues between two large out crops.
 3f. Path crosses route.
 4f. Route drops to cross nullah. Path leaves to L. of route.
 1m. 1f. Route follows R. of fork, to descend and join broad track coming in from R.
 1m. 2f. Path leaves to L. of route to LI HSAW (45h.) (4,400 ft.) (Mohsu).
 1m. 3f. Route crosses small stream in nullah.
 1m. 4f. Route crosses dry nullah by plank bridge, 3 ft. wide, 3 yds. long and climbs steeply through LI HSAW, at angle $1/3$.
 1m. 6f. Route leaves village, passing C.G. for 1 pln. on R. and descends for 100 yds. to cross dry stream with plank bridge, 7 ft. x 5 ft.
 2m. 2f. Path leaves to L. and R. of route, which continues to climb at an average angle of $1/5$.
 2m. 6f. Path leaves sharp R. from route, which passes through tin fence after which two paths leave at right angles to R.

ROUTE D-97-A—contd.

- 2m. 7f. Route crosses dry nullah.
 3m. Route continues L. at fork, R. path goes towards PANG HSUK.
 3m. 1f. Path crosses route, which bears L. towards saddle of hill.
 3m. 2f. Paths now leave to R. to PANG HSUK.
 18m. 3f. **PANG HSUK (15h.)**, Height 6,000 ft.
C.G.—In cultivated fields sufficient for 1 Coy.; dusty, but fairly flat.
Water—Sufficient from springs near *C.G.*
Fuel—Can be procured from local forests with difficulty.
Fodder—Sufficient grass; some paddy.
Supplies—Few chickens and eggs.
Tactical Position—Sound.

Stage 4. PANG HSUK (5,950 ft.)—MONGHKA (6,750 ft.)

- 4m. 7f. Route leaves camp towards saddle to N.
 3f. Saddle crossed. Route descends. Path leaves to L. of route, which now passes (a 12 ins. path) through tall thick grass and jungle.
 5f. Path crosses route. Immediately after this, path leaves sharp R. from route. 50 yds. further on path leaves to L. of route, followed by two paths crossing route.
 6f. Path crosses route, path leaves sharp L. of route, and 20 yds. further path leaves to R. of route.
 7f. Path leaves sharp R. of route, path leaves at right angles L. of route. Route now begins to rise through fields of poppies.
 1m. 2f. Path leaves sharp R. of route and 100 yds. further path forks to R. of route, which is now rising.
 2m. 2f. Just before top of ascent, path leaves at right angles to R. of route, which dips steeply for 2f.
 2m. 6f. At top of spur, route is cut sharply into rock, height, 6 ft., passable for mules.
 3m. 1f. Path leaves left for MAN NAM HWELONG, route descends at angle $1/2$ in three paths.
 Route rejoins Route D-97, at 4 ft. broad track which to the right (E) goes through PANG HAI, to MONGHKA, crossing river NAM HWE LONG (5,580 ft.) by stone bridge, stream 1 ft. deep, 9 ft. broad, and climbing at average angle $1/5$, with MAN NAM HWE LONG (10h.) visible 600 yds. to W. left.
 3m. 6f. Path crosses route.
 4m. Path leaves sharp L. from route.
 4m. 4f. Route reaches MONGHKA (25h.) and passes along E. side of village to cross small stream by stone bridge and turn L. and enter village.
 4m. 5f. Path leaves to R. of route which wheels L. round house to climb out of village to W.
 4m. 6f. Route reaches wide grass field with two streams flowing across it N. to S.
 Best *C.G.* is most Western grass space with walled field 50 yds. \times 30 yds.

ROUTE D-97-A—contd.

23m. 2f.

MONGHKA C.G. (6,750 ft.)*C.G.*—Good, sufficient for 1 Bde.*Water*—Ample from streams.*Fuel*—Scarce; has to be obtained away from hill tops, to the S.*Fodder*—Sufficient grass, very little paddy.*Supplies*—At present, villagers unfriendly. Eggs, chickens, pigs and cattle. Earth useless as Bakery.*Tactical Position*—Sound.

ALTERNATIVE ROUTE D-97-B.

MONGHKA—MONGHSAW.

Length :—15m. 5f.

2 Stages.

Epitome—

This is a second alternative to Route D-97 and is only reported upon for use when D-97 or D-97-A are impassable.

Route runs downhill in 1st stage along MONGHKA ridge to S.S.E. then bears left to E, to leave main track and descends spur through low jungle grass, and jungle to NAM HKA at average angle $1/3$. From NAM HKA, route rises at average angle $1\frac{1}{2}$ to clearing where camping is possible. Good *C.G.* for one battalion in paddy fields on W bank of NAM HKA. Some danger of fire in thick tall jungle grass during dry weather. In 2nd stage, route climbs to pass through heavy jungle over saddle to N. of MONGHSAW LAKE, and descends to MONGHSAW via Eastern edge of lake. This route ascending and descending irregularly, at times at angles $1/1\frac{3}{4}$, is impassable during rains.

NOTE 2.—This route is passable to all mules in February. It is, however, advisable to attach a detachment of S. & M. to the Adv. Gd., to clear obstructions and to repair the road where it would delay mules.

Stage 1.

MONGHKA (6,750 ft.)—TAK NA CAMP (3,280 ft.)

7m. 5f.

Leaves MONGHKA *C. G.* to cross stream to E. and pass round knoll into village of MONGHKA, which route leaves, descending to S; 10 ft. wide, good earth track, through grass and bushes.

7f.

Path leaves to R of route.

1m. 1f.

Path crosses route. MAN NAM HWELONG (10h.) visible 600 yds. to R. (West). Route angle of descent increases to average $1/4$.

1m 5f.

Route crosses NAM HWE LONG (5,580 ft.), 1 ft. deep, 9 ft. broad, by stones and path leaves to R. to PANG HSUK. Route bears L. to East, ascending to cross spur at 1m. 6f. and continues to undulate gently to SSE with some ascents and descents at angle $1/4$, through 2 ft. grass land, with sufficient stones to ford small streams.

ROUTE D-97-B—contd.

- 1m. 7f. Muddy stream follows route for 20 yds.
- 2m. Route crosses nullah, and passes over stream by 5 yds. rock bridge.
- 2m. 4f. Route crosses muddy nullah, stream 1 in. deep, 1 ft. wide.
- 2m. 6f. Path leaves to right.
- 3m. 1f. Route begins to descend more steeply, angle $1/3$.
- 3m. 2f. Route leaves broad track and bears L. by path (4,015 ft.). Track leaves to R. to S. across re-entrant to cross saddle end after $2\frac{1}{2}$ m. (approx.) join Route D-97 stage 2 at 3m.
- 3m. 3f. Route bears R. at fork 100 yds. further, path leaves sharp L.
- 3m. 4f. Path leaves to R. 20 yds. further, path leaves to L. Route now descends at angle $1/2\frac{1}{2}$. 100 yds. further, path leaves at right angles to L.
- 3m. 6f. Route crosses dry nullah 50 yds. further, paths leave L. and R.
- 3m. 7f. Route passes to S. of village PANG HAI (4,625 ft. Lahu) (S.W. of 1st H of HKUT HKAW, E., 4) and turning R. crosses two muddy streams in 10 yds. Path leaves at right angles to L. Route now descends gently.
- 4m. Path leaves to R. Route crosses 1 ft. stream 100 yds. further, paths leave sharp L. and sharp R. 50 yds. further, route crosses rocky dry stream.
- 4m. 1f. Path leaves to L. at right angles. Path leaves to R. 50 yds. further route crosses muddy 2 ft. stream.
- 4m. 2f. Path leaves sharp R. 100 yds. further, path leaves to L. 20 yds. further, path leaves to L.
- 4m. 5f. Path leaves at right angle to L.
- 4m. 6f. Path crosses route, which turns to L. (E) and descends at angle $1/3$, through long jungle grass.
- 4m. 7f. Two paths leave to L. Route ascends for 100 yds. then descends at angle $1/2\frac{1}{2}$ for 100 yds. and continues level for 300 yds. crossing cultivation to descend steeply at average angle $1/2\frac{1}{2}$.
- 5m. 2f. Route re-enters jungle grass. 100 yds. further path leaves to L. at rt. angles 50 yds. further, track leaves to L. Route ascends.
- 5m. 4f. Route reaches top of knoll and descends, average angle $1/2\frac{1}{2}$.
- 6m. Route passes old skull grove and village HKUT HKAW (Wa 3,350 ft.) Route passes round S. of village (Angwin's "HKUT HKAW," E. 4).
- 6m. 1f. Path leaves route sharp R. 100 yds. further, route turns R to continue to E. to village East Gate.
- 6m. 2f. Path leaves to R. 50 yds. further, path leaves at right angles to R.
- 6m. 3f. Path leaves sharp right. Path leaves sharp to left.
- 6m. 4f. Path leaves to L. 20 yds. further, a path leaves to R.
- 6m. 5f. Path leaves sharp R.
- 6m. 7f. Path crosses route.

ROUTE D-97-B—contd.

- 7m. Route reaches paddy and bears L. across paddy fields to river. Paddy gives good *C.G.* for 1 Bn.
- 7m. 1f. River NAM HKA reached by descending bank 20 ft. high, is forded by mules and crossed by men on tree trunk bridge. River 40 yds. across, 3 ft. deep (2,300 ft.). Route ascends steeply over red soil easily displaced, to E. average angle $1/2$, through poppy fields.
- 7m. 5f. Route reaches flat space across mud ditch, water in stream on R.
- 7m. 5f. **TAK NA CAMP (3,280 ft.).** $3\frac{1}{2}$ hrs. march.
C.G.—Good, grass, sufficient for 1 Coy. with *dah* cutting.
Water—Sufficient from streams; 4 galls, per minute.
Fuel—Difficult to obtain from jungle.
Fodder—Grass, paddy.
Supplies—Some chicken, eggs, from TAK NA. (E.4, "HTANG NA.")
Tactical Situation—Sound, with *dah* cutting.
- Stage 2. TAK NA CAMP—MONGHSAW (3,600 ft.)**
- 8m. Route leaves and ascends E. of *C.G.* at average angle $1/2$.
- 0m. 1f. Path leaves sharp L. Track bears R. to S. and angle of ascent becomes less. Route enters jungle. 120 yds. further broad path leaves to L.
- 0m. 2f. Path leaves to R. 15 yds. further, path leaves sharp L.
- 0m. 4f. Path leaves sharp R.
- 0m. 6f. Route passes skull grove on left, 100 ft. further, path leaves sharp L.
- 1m. Route reaches TAK NA (E. 4) (3,890 ft.) Wa village, bears R. to pass through fence and continues through village.
- 1m. 2f. Route leaves village by passing through gate posts. 10 yds. further path leaves at rt. angles to L. 50 yds. further path leaves to L. 30 yds. further path leaves to R.
- 1m. 3f. Route passes along W. side of WAN MAI (Wa). Path sharp L to village.
- 1m. 6f. Path leaves to L. Route ascends at angle $1/2\frac{1}{2}$.
- 2m. 1f. Path leaves to R. Path leaves to L.
- 2m. 3f. Route reaches level stretch 300 yds. long, passing through jungle grass. Route then ascends.
- 2m. 5f. Route bears R. at fork. 50 yds. further, path leaves sharp L.
- 2m. 7f. Path leaves sharp R.
- 3m. Path leaves to L.
- 3m. 1f. At top of ascent, path leaves sharp L. A level stretch of 50 yds., then route descends at angle $1/3\frac{1}{2}$.
- 3m. 4f. Path leaves at right angles to L. 100 yds. further, route begins to ascend steeply, angle $1/2$, a very uneven, broken path, through jungle.
- 4m. Route reaches level stretch, passing along knife edge to E. L. of ridge. This stretch impassable during rains.
- 4m. 2f. Route crosses saddle after short steep ascent and descends at average angle $1/2\frac{1}{2}$.

ROUTE D-97-B—concl'd.

- 4m. 3f. Route crosses nullah, stream 3 ft. wide, 2 ins. deep, stony bottom, short steep ascent, then route descends by uneven rocky path twisting at a gradient, in places, of $1/1\frac{1}{2}$, through jungle and jungle grass.
- 4m. 4f. Road crosses nullah, stream 2 ins. deep, 1 ft. wide and continues level for 100 yds. then crosses dry nullah.
- 4m. 6f. Route crosses nullah, stream 1 yd. wide 2 ins. deep. 100 yds. further, route crosses dry nullah.
- 5m. Route crosses dry nullah. 100 yds. further, route passes up and crosses dry nullah.
- 5m. 2f. Path leaves sharp L. Route crosses dry nullah.
- 5m. 4f. Path leaves to L. Path leaves sharp L. 50 yds. further path leaves to L. Route descends at angle $1/1\frac{1}{2}$ to cross muddy nullah and rise.
- 5m. 6f. Route reaches summit of ridge N. of MONGHSAW Lake (4,410 ft.) and bears R. to descend at average angle $1/2\frac{1}{2}$.
- 5m. 7f. Path leaves to L. 150 yds. further, path leaves to L.
- 6m. Path leaves sharp L.
- 6m. 3f. Path crosses route.
- 6m. 4f. Path leaves sharp R. and route becomes more level. Path leaves sharp L. 150 yds. further route turns R. and joins Alternative route to stage 1 of D-97, and enters a small open space—MONGHSAW LAKE—R.
- 6m. 7f. Crosses small stream (2 ft. x 2 ins.). Passes through dense jungle, gently undulating surface, sandy and rocky and at
- 7m. 6f. Passes MAN KUI—L. of track.
- 15m. 5f. **MONGHSAW** (3 groups each 100h. Shan, friendly).
C.G.—Unlimited in paddy fields in valley.
Water—Plentiful from NAM LANG (NAM HSAW).
Fuel—Unlimited from jungle on valley side.
Fodder—Grazing in paddy fields and jungle.
Supplies—Negligible; small quantities of paddy and eggs from villages; small game in jungle.

ROUTE D-98.

MONGHKA—YAWNG BRE CAMP.

Length :—9m. 1f.

3 Stages.

Epitome—

In stage 1 this route continues along the MONGHKA ridge undulating gently, and then descends, and again climbs steeply (gradients $1/2$) to the *C.G.* In stage 2 the route descends through thick jungle grass to cross the Basin, 3 miles in diameter, through cultivation and *taungya* or *C.G.* on E. side of Basin. In stage 3 the route crosses a saddle on N. side of Basin, and then descends W. of main track through jungle to open cultivation and water S.W. of YAWNG BRE.

ROUTE D-98—*contd.*

This route is passable to all mules in February. It is, however, advisable to attach a detachment S. and M. to the Advanced Guard to clear obstructions and to repair the road where it would delay mules.

•(NOTE.—In dry weather there is a danger of fires in the long grass in stage 2.)

C.Gs.—For 1 Coy. throughout.

Water—Sufficient throughout from streams.

Fuel—Sufficient in stages 1 and 3. Difficult to obtain and 1 mile distant in stage 2.

Fodder—Ample grazing throughout.

Supplies—Plentiful in stage 1.

Nil in Stages 2 and 3.

NOTE.—There are two alternative routes (a) from MONGHKA to MONGHSAM (PAHSANG) which is $1\frac{1}{2}$ miles longer than stage 1, steeper and more difficult. And (b) MONGHKA to BASIN CAMP which is 3f. shorter but is as steep and is more difficult and the villagers of MONGHSAM are unfriendly. Neither of these routes are recommended.

Stage 1.

MONGHKA (6,750 ft.)—MONGHSAM CAMP (6,230 ft.)

5m. 2f.

Route leaves *C.G.* to ascend due N. and travels along ridge round E. side of small hill, with paths to L. and small grass valley to R. undulating gently.

2f.

Path leaves at rt. angles L. of route which is joined, sharp L. by path. 100 yds. further path leaves sharp L. of route.

5f.

Path leaves L. and R. of route. 100 yds. further path leaves sharp R. of route.

6f.

Route passes through clumps of trees.

7f.

Path leaves L. of route 10 yds. further path leaves, curling sharp L. of route, which now descends at angle $1/6$.

1m.

Route turns L. at rt. angles at crosspaths to descend to W. [straight on, to N., path continues to descend, another route to MENGHSAM. To R. a path descends E. of MONGHKA ridge (6,650 ft.)] 50 yds. down route, muddy nullah is crossed. Route descends at average angle $1/3$, some stretches $1/1\frac{1}{2}$.

1m. 1f.

Path leaves L. of route. 10 yds. further path leaves sharp L. of route, which reaches flat stretch, 50 yds. after which path leaves sharp L.

1m. 2f.

Route is joined sharp L. by path, and turns R. to cross 1 ft. stream and travel N. 100 yds. further path leaves sharp L. of route.

1m. 3f.

Two paths cross route and path leaves to R. of route, which crosses and continues along level rocky path alongside a dry stream.

1m. 4f.

Route crosses, by stepping stones, stream flowing R. to L. 5 yds. wide, 1 ft. 6 ins. deep, average width 3 yds. 6 yds. further route bears L. at fork to pass *C.G.* for 1 Coy. (6,200 ft.).

ROUTE D-98—*contd.*

- 1m. 5f. Path leaves to R. to route which now goes through bamboo jungle. 150 yds. further path leaves to R. of route.
- 1m. 6f. Path leaves to L. of route, which now leaves bamboo to enter open grass *taungyas*.
- 2m. Path leaves sharp L. from route. Shortly afterwards, path leaves to R. of route, which passes through bamboo.
- 2m. 1f. Route crosses stream 2 yds. across, 6 ins. deep, by stepping stones, and enters small gorge.
- 2m. 2f. Route crosses small marsh, and reaches stream, average width 3 yds. depth 6 ins., crossed by stepping stones, into open grass *taungyas*.
- 2m. 3f. Path leaves to R. from route, which now is faint path.
- 2m. 4f. Path crosses route, which now becomes strongly marked path.
- 2m. 5f. Route leaves strongly marked path to bear R.
- 2m. 6f. Path leaves to L. of route, which now ascends at angle $1/2\frac{1}{2}$.
- 3m. Route turns sharp L. to join, and descend along broad track.
- 3m. 2f. Route crosses stream 1 ft. wide, 6 ins. deep, and passes through jungle scrub.
- 3m. 4f. Route crosses rocky stream 3 yds. wide, 6 ins. deep, by stepping stones.
- 3m. 7f. Path leaves sharp L. from route, which continues to descend.
- 4m. Route crosses stony dry nullah, after which path leaves R. and L. of route.
- 4m. 1f. Path leaves sharp R. from route. 100 yds. further route reaches broad rocky dry nullah 10 yds. wide. Another broad track, also joins route from sharp right, crossing nullah (3,280 ft.).
- 4m. 2f. Route turns R. at rt. angles from broad road to MONGHSAM and ascends steeply at average angle $1/2\frac{1}{2}$. 100 yds. further, path leaves to L. from route.
- 4m. 3f. Route crosses dry nullah and bears L. at fork.
- 4m. 2f. Stream 2 ft. wide, 6 ins. deep crosses route, moving L. to R.
- 5m. 1f. Faint path leaves to L. of route which reaches crest of ridge, broad path leaves to L. of route at rt. angles. Route descends on E. side of ridge by path for 50 yds., then turns L. off path through bamboo jungle.

5m. 2f.**MONGHSAM CAMP (6,230 ft.).***C.G.*—Good, flat. Sufficient for 1 Coy. with *dah* work.*Water*—Sufficient, from stream through bamboo jungle to E of *C.G.**Fuel*—Sufficient, from local forest.*Fodder*—Ample grass, little paddy.*Supplies*—From MONGHSAM (400h. Wa); chickens, eggs, pigs, cattle.*Tactical Position*—Sound, with same *dah* work.

ROUTE D-98—*contd.*

Stage 2.

MONGHSAM CAMP—BASIN CAMP.

- 2m. 4f. 1½ hours march.
Route leaves camp to S, goes through bamboo wood climbing to top of ridge.
- 1f. At ridge top route goes straight on, broad path leaves to R. 10 yds. from top, route takes faint path to R. of main path, to continue along W. side of ridge top, descending gradually through 10 ft. forest grass, passable to mules.
- 4f. Route descends to grass field (3 ft. high) and is crossed by path. Route crosses field to bear L. along small gully. Path leaves sharp R. from route. After 150 yds. Route turns R. from main path to ascend, now a small path, with incline 1/3.
- 5f. Route bears R. at fork, and ascends to join well defined path coming from L. Shortly after this, path descends and continues to undulate. Path leaves at rt. angles to R.
- 6f. Faint path leaves to L. at rt. angles.
- 7f. Path leaves route at rt. angles to R. Route descends at gradient 1/2½ to cross nullah stream 2 ft. wide and ascends at 1/2½. At top of ascent path leaves to L. of route.
- 1m. Two paths leave to cultivation R. of route. 100 yds. further path leaves to R.
- 1m. 1f. Route crosses small muddy stream.
- 1m. 2f. Route bears R. at fork to descend into basin and undulate sometimes at gradient 1/2½ to N.N.E.
- 1m. 5f. Path to cultivation leaves sharp R. of route which descends to cross dry rocky nullah 5 ft. wide and ascend steeply. Path leaves sharp L. 20 yds. further path leaves to L.
- 2m. Path crosses two dry streams and ascends; path leaves sharp R. and 50 yds. further, L. at rt. angles.
- 2m. 1f. Two paths leave to L. Route crosses stream 3 ft. wide, 6 ins. deep by ford. Path leaves to R. and route turns R. to C.G. at cross paths.
- 2m. 3f.

7mi. 6f.

BASIN CAMP (5,775 ft.).*C.G.*—Good paddy fields, sufficient for 1 Coy.*Water*—Ample from streams S. and N. of camp.*Fuel*—Difficult to obtain; 1m. distant.*Fodder*—Ample grass; no paddy (February).*Supplies*—Nil.*Tactical Position*—Excellent.

Stage 3.

BASIN CAMP—YAWNG BRE CAMP.

- 1m. 3f. Route leaves camp to continue N., ascending at 1/8, fording stream 2 ft. wide, 6 ins. deep, flowing L. to R. Path leaves to L. of route, and path crosses route.
- 1f. Route fords stream flowing L. to R. 2 ft. wide, 6 ins. deep. Thirty yds. further path leaves sharp L.
- 3f. Path leaves at rt. angles to R. to join path going sharp R. Path leaves to L. and path leaves sharp R.
- 4f. Strongly marked path leaves sharp L. of route which reaches top of saddle, height 6,100 ft., and 100 yds. further,

ROUTE D-98—concl'd.

passes through gate posts. Very steep path leaves to L. at rt. angles. Route now passes through light jungle.

- 5f. Path leaves to R.
 7f. Route leaves by path L. of broad track.
 1m. Broad path crosses route.
 1m. 1f. Broad path crosses route.
 1m. 2f. Route leaves light jungle and crosses wide, gently sloping, cultivated fields, with ample space for C.Gs.
 Path crosses route, proceeding R to Yawng Bre, visible 1,000 yds. to R., crossing good stream 50 yds. down to R.

9m. 1f.

YAWNG BRE CAMP.

C.G.—Ample space.

Water—From stream.

Fuel—Available.

Fodder—Available.

Supplies—Nil.

NOTE.—From Yawng Bre Camp the track continues N. through thin jungle to Mannaw about 1m. 2f. distant. This is an easy march.

ROUTE D-99.

YANG HSAI—HO AI CAMP.

TIME ROUTE REPORT.

Time of March—2½ hours.

1 Stage

Epitome—

This route is difficult for parties of men greater than a company, owing to the steep ascents and descents. It is passable for Chinese and Government mules. The route ascends to cross the Point "C" ridge about 1½ miles N. of Point "C" and after descending steeply at angle 1/3 to a narrow stream, ascends and crosses a spur, after which a further descent brings the route to a lower ridge and into the paddy fields of HO AI Camp river. The route consists of a narrow path through grass, and *taungyas* except on the hill tops where forest jungle is passed through.

Marching
time.

0hr. 45m.

YANG HSAI village (TAME WA, 8h). Route ascends through grass to E. angle 1/6. Route reaches ridge and, entering jungle, turns R and follows ridge to S. along uneven narrow path.

1hr. 15m. Route passes through village HO LAWNG and turns L. to descend to E. through grass.

1hr. 45m. Route descends angle 1/3 to ford stream, 2 yds. wide, 6 ins. deep, and ascends at angle 1/2 through small paddy fields for 300 yds.

2hrs. 10m. Route reaches top of spur and descends.

2hrs. 16m. Route crosses small, marshy, paddy fields and ascends small spur to descend and continue towards low saddle.

2hrs. 23m. Route crosses dry bed of stream and continues across low saddle.

2hrs. 30m. Route passes to L. of village (5h.) and descends into HO AI Camp.

NOTE.—For C.G., etc., see Route D-100—Stage 1.

ROUTE D-100.

CHING MAU—MANKAI (via HO AI).

Length :—20m. 2f.

2 Stages.

Epitome—

In stage 1 route passes S. down river, W. of CHING MAU. Then turns W. and travels along a level path. Joins good broad track from MONG HSAW and ascends ridge, S.W. with some steep gradients. Leaves main track and runs steeply W. down and across valley to HO AI. Crosses another ridge and descends steeply to paddy fields which provide extensive C.G. This stage is very tiring owing to many long steep ascents, but track is good, passable by all mules, mainly through jungle grass land and *taungyas*.

In stage 2 route passes through grass land, S, ascending long spur at average angle $1/6$, to rejoin good broad track at village WAN NAWNG after 1m. 2f. Continues gently to ascend to the S, crossing the ridge 1m. further and descends in places at angle $1/2\frac{1}{2}$, to river valley, crossing a low spur. Route travels down river valley through heavy jungle with grass clearings, to MANKAI. This is an easy stage. Track is mainly good, within the river valley some rocky difficult portions. Passable for all mules.

Stage 1.

CHINGMAU—HO AI CAMP.

- 10m. 3f. Route leaves CHINGMAU, passes through village. Several paths join route.
- 2f. Route reaches grass clearing, paddy fields to front. Route turns L. and moves S. along mud path, 18 ins. wide, through jungle.
- 3f. Route ascends and continues along level stretch, 150 yds. further path leaves sharp R.
- 4f. Path leaves sharp R. 20 yds. further path leaves sharp L. 80 yds. further broad path leaves to L. at fork. Path crosses route, which now passes to R. of WAN KAU (Shan).
- 5f. Path leaves at rt. angles to R. Path leaves at rt. angles to L. Path crosses route.
- 6f. Path leaves to L. Route turns R. at cross paths in grass clearing and re-enters jungle.
- 7f. Path leaves to R. 150 yds. further route crosses river by good 15 yds. wooden bridge, 3 ft. wide. River can also be forded. Path leaves to L. on far side of bridge.
- 1m. Path leaves sharp left.
- 1m. 2f. Broad path leaves to left at fork. Route passes through jungle bushes for 300 yds. Path leaves sharp L.
- 1m. 3f. Path leaves sharp R. Path leaves L. Route enters jungle by narrow, broken path.
- 2m. 3f. Path leaves to L.
- 3m. 2f. Route now passes through poppy fields. Path leaves to R. 100 yds. further path leaves to L.
- 3m. 3f. Path leaves sharp R. 100 yds. further path leaves to sharp R. Path crosses route.

ROUTE D-100—*contd.*

- 3m. 4f. Good track joins route from valley R. from MONGH-SAW. Route continues along track, climbing steeply to W, angle $1/5$.
- 3m. 5f. Path leaves R. 100 yds. further path leaves R. to village NA LUNG, and route turns S. along W. of ridge, undulating, mainly ascending.
- 3m. 6f. Path crosses route. Path leaves R. to valley.
- 4m. 2f. Route ascends angle $1/4$.
- 4m. 6f. Path crosses route. 100 yds. further broad track leaves R. of route.
- 5m. Route reaches top of ridge and passes along it to the S.W. still ascending.
- 5m. 5f. Path leaves L. to 5 Shan huts.
- 5m. 6f. Path crosses route. 200 yds. further path leaves R. Route continues along ridge, crossing nullahs.
- 6m. Village 100 yds. to L.
- 7m. 6f. Route leaves broad track to cross *taungya* descending into valley.
- 8m. 4f. Route fords stream, 6 ft. wide, 3 ins. deep and begins ascending, 50 yds. further route crosses stream 3 ft. wide, 2 ins. deep. Route ascends, angle $1/3$.
- 9m. Path leaves L. at rt. angles. Route turns N. through HO AI, turning W. to continue ascent.
- 9m. 2f. Path crosses route 100 yds. further paths leave sharp R. and L. Route bears R. at path junction.
- 9m. 4f. Route reaches top of ridge and turns N. along ridge, to turn W. and descend at angle $1/3$; rough broken path.
- 10m. 3f. Route crosses stream 6 yds. wide, 6 ins. deep to paddy fields giving ample *C.G.*

HOI AI CAMP $5\frac{1}{2}$ hrs. march.*C.G.*—Sufficient for detached parties, any force.*Water*—Ample from stream.*Fuel*—Sufficient from E. of stream.*Fodder*—Ample grass; some paddy from valley villages.*Supplies*—Few; practically *Nil*.*Tactical Position*.—Poor.**Stage 2.****HO AI CAMP—MANKAI CAMP.**— $5\frac{1}{2}$ hrs. march.

- 10m. 1f. From HO AI CAMP route goes W. of stream in S. direction.
- 1f. Route crosses stream and ascends spur.
- 5f. Path crosses route.
- 6f. Route bears L. at fork.
- 1m. Route ascends steeply across two streams through small village into jungle scrub to ridge at WAN NAWNG.
- 1m. 3f. Route joins broad track on ridge, and bearing R. follows to S.E.
- 1m. 5f. Route crosses muddy nullah, 1 ft. stream.
- 2m. Route crosses stream 1 ft. broad.
- 2m. 1f. Route crosses stream 1 ft. broad at small village WAN NAU CHATSE, and ascends, angle $1/4$.
- 2m. 2f. Route reaches top of spur and descends, in places angle $1/2$ through sparse trees; a sandy track.

ROUTE D-100—concl'd.

- 3m. 6f. Paths leave L.
 3m. 7f. Path crosses route. 100 yds. further, route crosses stream, 4 ft. wide, 6 ins. deep.
 4m. Route crosses stream twice and continues level through grass fields.
 4m. 3f. Route fords stream, 10 ft. wide, 6 ins. deep and ascends through jungle.
 4m. 6f. Route continues level.
 5m. Route passes W of TA KUL HKA, descending gently, angle increasing to 1/4.
 6m. 5f. Route reaches paddy fields and crosses dry stream, 20 ft. wide.
 6m. 6f. Route crosses dry stream and passes through jungle.
 7m. Route for 20 yds. becomes very uneven, rocky and narrow.
 7m. 1f. Route passes a long left bank of dry stream.
 7m. 3f. Route crosses dry stream. 100 yds. further route crosses dry stream.
 7m. 5f. Route leaves jungle and continues through grass.
 8m. 5f. Path leaves sharp L. of route.
 9m. 4f. Path leaves to L. 100 yds. further route turns R. to S. and enters paddy fields.
MANKAI CAMP.
 10m. 1f. C.G.—Ample for 3 Bdes. in paddy fields.
 Water—Ample from stream—NAM KAW and NAM LWI.
 20m. 4f. Fuel—Ample from forests.
 Fodder—Paddy plentiful—Little grass.
 Supplies—Chickens, eggs, cattle, pigs from village.

ROUTE D-101.

KANGHSO—MANKWEI via HTAPU.

Length :—16m.

1 Stage.

Epitome—

Stage 1.

KANGHSO—MANKWEI.

16m.

This route is very long and tiring. It crosses the NAM MA by an excellent bridge. Fit for pack tpt. Marching time for Tps. 8 hrs. 45 mins. Approximate speed excluding halts 2 m.p.h.

16m.

MANKWEI. (There is no C.G. or water near village.)
 C.G.—Ample on knoll immediately E. of and completely commanding MANKIA.

Water—Sufficient $\frac{1}{2}$ mile distant.

Fuel—Limited.

Fodder—Jungle grazing; limited.

Supplies—Nil.

ROUTE D-102.

MANKWEI—MONGMAO.

Length :—14m.

1 Stage.

Epitome—

Stage 1.

MANKWEI—MONGMAO.

14m.

Marching time for tps.—8 hrs. A long march.

Average speed excluding halts 2 m.p.h.

Passes en route—HPAKTULIN.

KONGWAWK.

PANKIU.

thence descends to
cross NAM CHIU stream (1 ft. deep—fordable). The
last two miles of this route are ideal for an enemy ambush.

14m.

MONGMAO.

C.G.—Good.*Water*—Plentiful.*Fuel*—Available.*Fodder*—Available.*Supplies*—Nil.

INDEX TO FERRY CROSSINGS.

ROUTES "D"

IN

N.S.S. and WA STATES.

1. Ferry Crossing of SALWEEN—Stage 6 of Route D-17.
2. Ferry Crossing of SALWEEN—Stage 2 of Route D-18.
3. Ferry Crossing of SALWEEN at TAPA—Stage 5 of Route D-21.
4. Ferry Crossing of SALWEEN at MA CHANG.
5. Ferry Crossing of SALWEEN at KUNLONG.
6. Ferry Crossing of SALWEEN at TA HSAILENG (also Note on suggested Bridge site).
7. Ferry Crossing of SALWEEN at PANGYOK.
8. Ferry Crossing of SALWEEN at TA KAWNG PONG.
9. Ferry Crossing of SALWEEN at TA HTI and TA KWEPPONG.
10. Ferry Crossing of SALWEEN at TA MANHSUM (Notes A, B and C).
11. Ferry Crossing of NAM PANG—MAN PANG POI.
12. Ferry Crossing of NAM HKA—WAN PANGHSANG.

SALWEEN CROSSING in Stage 6, Route D-17.

1

A very steep descent through thick bamboo jungle to near bank of River. The ferry consists of three rafts and one dugout. The crossing of anything but a small force would take some considerable time. There is *C.G.* for two companies on far bank with water, fuel and fodder plentiful, but No supplies.

SALWEEN CROSSING in Stage 2, Route D-18.

2

The SALWEEN is here 240 ft. \times 40 ft. with 4 m.p.h. current, running between high wooded banks. The ferry landings are not good being very rocky. Ferry consists of one long dugout only,—capacity four men and five mule-loads. Animals must swim. The crossing is therefore very slow (*viz.*)—21 men, 1 pony and 23 pack mules take two hours from arrival at one bank to departure from the other. There is a ferry house on r.b. near the ferry, but it is advisable to bring men from HKAWHTUHSAN.

There is a fair-sized sandbank on the r.b. fit for a small C.G., and there is a large C.G. $\frac{1}{2}$ mile downstream on l.b. in paddy fields.

TAPA FERRY—Stage 5, Route D-21.

3

The SALWEEN is here 300 ft. \times 40 ft.—4 m.p.h. current, with rocky banks. In December there is a level strip of sand and loose rock on each bank (90 ft. \times 30 ft.) which with little clearing could be made into moderate landing places.

On r.b. there is a sandbank 2f. below ferry—suitable for a C.G.—(100 yds. \times 50 yds.).

Ferry—One bamboo raft—capacity: 3 mule-loads or 6 men and equipment. Animals must swim. The raft is worked by 3 men who live on a hill on r.b.

MA CHANG FERRY.

4

There is a small ferry at MA CHANG on r.b. of SALWEEN. There is however no detailed information about this.

KUNLONG FERRY.

In November 1937 the following ferry boats were available:—

- (i) One large boat which takes mules or personnel. Its capacity per trip is 25 mules (Chinese) or 15 mules (Government); approximately one hour should be allowed for the trip across and return. Mules cannot be swum across.
- (ii) One medium boat. Capacity up to 100—500 lbs. bags of rations of 35 men (excluding paddlers) per trip. Four or five mules can be carried in this boat. Approximately 20 minutes for one crossing;
- (iii) Five small boats. Carry 20 men (excluding paddlers) or 60 to 50 lbs. bags rations. Approximately 15 minutes for one crossing.

Two small boats tied together will take 15 Chinese saddles loaded complete.

Assuming that troops arrive from the last camp at 1200 hours and crossing arrangements commence forthwith the B.F.F. have found that 120 mules and loads can be got across before dark the same day. At this rate it should be possible to get all troops and transport across with a halt of only one whole day at KUNGLONG. But as we have to deal with Chinese mules, Chinese muleteers and Chinese paddlers I consider it safer to allow two whole days at KUNGLONG for each Echelon.

TA HSAILENG FERRY—1935-36.

The SALWEEN at TA HSAILENG is approximately 1,150 ft. broad during the rains and in dry weather about 750 ft.

The rise and fall is about 30 ft. to 40 ft.

The speed during the rains is about 5—6 m.p.h. and during the dry weather about 6 m.p.h.

The bank on the near side at the TA HSAILENG ferry site is of mud and approximately 30 feet high at a slope of 1 in 3 and 1 in 2. In the dry weather when the water drops the bank falls a further 30 ft. to 40 ft. steeply to the water level leaving a narrow shelf capable of holding 30 to 40 mules.

The ferry site on the far bank at TAHMONGNAWNG, upstream on a bearing of 20°, has steep banks in the wet weather; but in the dry weather when the river falls, a gently shelving sandbank is uncovered, about 100 yds. broad and 400 yds. to 500 yds. long. This is capable of holding an almost unlimited number of mules.

In dry weather the normal ferry site to TAHMONGNAWNG is about $\frac{1}{2}$ mile upstream from TA HSAILENG Village. Here the river is about 200 yds. broad and the speed about 7 m.p.h. On the near bank the bank is steep and the landing somewhat congested, but ample space is available on the far bank, as has already been described.

The time of crossing for the round trip in the wet weather is estimated to be not less than one hour.

In the dry weather the round trip takes from 20 minutes to $\frac{1}{2}$ hour.

In normal times there are approximately 10 dugouts available, *e.g.*, in August 1934 there were on the near side, four dugouts each capable of taking 6 men, of whom not more than 3 could be passengers. On the far bank there are said to be two large dugouts that would each take 15 men, *i.e.*, 8 to 10 passengers according to the state of the river and four small dugouts taking 6 men each.

In May 1936 however, the Civil Officer had constructed or had collected from villages downstream, a total of 32 dugouts of various sizes, with rowers to man them.

The normal method of crossing mules is to swim them from the ferry site noted about $\frac{1}{2}$ mile above TA HSAILENG Village. It is doubtful if this is done in the wet weather.

In the dry weather two large dugouts can be lashed together and a raft constructed to carry 6 to 10 Chinese mules.

In May 1936 two such rafts were constructed, and 40 Mountain Battery mules were ferried across, two per raft per trip.

No barge exists and it is doubtful, even if it were provided, if men could be found to use it.

MONGNAWNG on the far bank is a village of 40 houses (2 Chinese, 4 Wa and the rest Wild Shan).

There is ample *C.G.* in the neighbourhood of the village. MONGNAWNG is part of PANGLONG STATE.

TA HSAILENG FERRY.

River Salween.

In 1936 the four biggest dugouts, each about 30 ft. long, had been lashed together in pairs to make two rafts, on which a superstructure about 12 ft. \times 6 ft. of bamboo was constructed.

These two big rafts were used for crossing the gun complete on one raft in one trip; for loads of kit for crossing the Gunner and Government mules, two mules per raft per trip; and finally for crossing the Chinese mules. About 10 to 12 rowers were required to man each raft.

The remaining small dugouts were also lashed together in pairs, about 2 ft. apart, to give additional stability. No superstructure however was constructed. About 4 to 8 rowers were required to man each pair of dugouts.

These dugouts were used to cross men, equipment and mule loads, the smaller pairs of dugouts being used for men only.

Each pair of dugouts was loaded as far as possible to capacity with loads suitable to their size.

The round trip averaged 20 minutes to $\frac{1}{2}$ hour including time for loading and unloading.

Each raft, or pair of dugouts was poled about 100 yds. upstream from the loading place, was rowed across the stream, and reached the other bank probably below the landing position, from where it was poled upstream to the landing site. The same procedure was carried out with the empty rafts or pairs of dugouts from the landing position for the return journey.

As many as 8 pairs of dugouts were seen at one time on the move.

The whole crossing for the men and equipment, less animals, was completed under two hours. This was a very creditable performance as the river was about 220 yds. wide at the site of the crossing with a speed of about 6 to 7 miles per hour.

The Government mules (40) were crossed two at a time on each of the big rafts. The platform was not wide enough for the mules to stand across the raft and hence only two, loaded lengthwise, could be carried. A loading ramp was provided at the loading place but the mules jumped off the raft at the landing site. One mule jumped off in mid-stream and swam across.

It is doubtful whether under the conditions of river or weather prevailing, the rafting of the mules was either necessary or desirable.

There is no question that the mules could have been swum across. Rafting took a considerable time, and, with the rafts available and the narrow platform provided, I personally considered that the mules were less likely to be damaged by swimming than by rafting.

Further, once the Government mules had been rafted the Chinese mule drivers demanded that their mules also be rafted across.

The whole work of preparing the dugouts and rafts was carried out in less than 10 hours by the local villagers who had to do a large proportion of the work during the night.

It is understood from the Civil Officer that the rowers were paid two days' wages for the whole rafting job and that this amounted to about Rs. 1-4-0 per man.

NOTE ON SUGGESTED BRIDGE SITE NEAR TA HSAILENG.

The SALWEEN emerges from a gorge at a point approximately $1\frac{1}{2}$ miles above TA HSAILENG. During the rains the gorge can only be approached by a circuitous route to avoid flooded streams, the mouth of gorge being reached in $2\frac{1}{2}$ miles; this however could probably be reduced in dry weather as there is said to be a sand bank along the river's edge.

From the mouth of the gorge to the suggested bridge site there are the remains of an old well-worn footpath at present overgrown. This could be made passable to mules by village labour in 3 or 4 days. The track runs along the side of a precipitous rocky hill. The suggested bridge site is about $1\frac{1}{2}$ miles along this path, *i.e.*, approximately 4 miles from TA HSAILENG where the SALWEEN for about 1 mile runs through vertical cliffs which appear to be nowhere more than 100 yds. apart. The general direction of the narrows is approximately 310° to 315° .

The speed of the river could not be estimated with any accuracy but is probably in the neighbourhood of 15 to 20 m.p.h. in the rains. It is a mass of whirlpools in which large logs disappear completely; the river is surging and boiling. Native informants state that the level drops 30 ft. in dry weather and the current is much slower with no boiling and surging, and that they could carry a light rope across in a canoe.

The exact site for the bridge can only be determined after a detailed examination of both banks along this stretch. The reconnaissance would entail approximately one week's work with accurate instruments. From the preliminary reconnaissance of the near bank the site appears to be feasible for a suspension bridge. Native informants state that a path could be built along the opposite bank without any great difficulty.

NOTE ON FERRY AT PANGYOK.

The SALWEEN at PANGYOK is approximately 1,100 ft. broad. In the dry weather the width is stated to be $\frac{1}{3}$ of this, leaving a sand bank of approximately 100 yds. broad on the near side of river. The level is stated to drop 30 ft. to 50 ft. in the dry weather and occasionally in the rains to flood the near bank up to the village. The bank on the near side is 15 ft. in the rains and drops easily—the far bank is steep 50 ft. to 60 ft., and is stated to be very steep in dry weather. The speed during the rains is estimated at 6 to 8 m.p.h. and during the dry weather is said "to be 3 times this speed." There is a definite back-swirl on the near bank during the rains.

C.G. on the near bank is a slightly restricted area near the village. On the far bank directly opposite is HSOPMA, 16h. (Wild Shan) who, although under the KONGHSO *Sawbwa*, intermarry with the inhabitants of PANGYOK. There appears to be ample space for a C.G. 400 yds. upstream of HSOPMA on a bearing of 324° from the ferry site on near bank.

On the near bank there are two dugouts, a large one taking 10 men and a small one taking 6, *i.e.*, approximately 5 and 3 passengers each. On the far bank there are said to be 3, each capable of holding 15 men, *i.e.*, 8 passengers. Local information stated that mules and cattle are not swum across here but are taken to TA HSAILENG. No estimate could be made of the time of crossing by canoe. Extra canoes could be obtained from TA HSAILENG if necessary.

NOTE ON THE TA KAWNG PONG FERRY.

The SALWEEN at TA KAWNG PONG is approximately 800 ft. broad and 900 ft. at maximum flood level. In dry weather the breadth is said to be 700 ft. and the level is said to drop 30 ft. to 40 ft. The banks are very steep and estimated at 80 ft. on the near bank in wet weather, and rising to 300 ft. on the far bank less steeply. The speed during the rains is estimated at 8 m.p.h. and during the dry weather is said to be very much faster. Large logs are constantly floating by. In the centre of the

stream there are rapids in the dry weather stated to extend from just upstream to the corner about $\frac{1}{2}$ mile below. The rocks in the rapids are visible in dry weather. There is a definite backswirl on the near bank for about 300 ft. out during the rains. There is no village or possible *C.G.* on the near bank. TA KAWNG PONG is on the far bank and consists of 12 h. (Wa) with 8 guns. There appears to be a possible *C.G.* above the village but this site is probably rather steep.

There are said to be two dugouts on the far bank—one in bad condition—which will each hold 15 men, of whom only 7 to 8 could be passengers. There is no means of crossing mules other than swimming them which is only possible in the dry weather. Small canoes might possibly be brought from TA KAWNG HUNG in the wet weather only and from TA HSAILENG. No estimate could be made as to the time of crossing.

TA HTI AND TA KWE PONG FERRIES.

The SALWEEN at these two sites is approximately 450 ft. broad and approximately 500 ft. at maximum flood level. The river is stated to be liable to rise 25 ft. after 8 days heavy rain. In dry weather the breadth is said to be approximately $\frac{2}{3}$ of this and the level is said to drop 50 ft. The banks are very steep on both sides at both ferries and on the near side are estimated at 20 ft. precipitous sloping to *plus* 100 ft. where there is a level shelf. On the far side the banks are precipitous for 20 ft. and then appear to rise steeply for approximately 300 ft.

There is no village at either ferry site. TA HTI (the upstream ferry) is used during the rains and TA KWE PONG during the dry weather, each being impassable at the wrong time of the year. The two sites are approximately 3 furlongs apart. There are three dugouts which will hold 10 men each (four rowers and six passengers). These dugouts are used to work each ferry at the appropriate season. During the dry weather, only two dugouts can be lashed to bamboos to make a raft but mules cannot be carried on this. Mules cannot be swum across at any season (*i.e.*, there is no means of crossing mules). The dugouts are on the far bank and are worked by men living in a hut near the ferry site.

At TA HTI the speed of the river during the rains is 9 to 12 m.p.h. and in the dry weather is said to be "three times this speed". The round trip for a laden canoe is estimated at $\frac{3}{4}$ hour.

At TA KWE PONG the speed of the river during the rains is 12 to 15 m.p.h. and in the dry weather is said to be much less. No estimate could be made of the time taken for the round trip at this ferry.

NOTE "A".

NOTE ON FERRY CROSSING AT TA MANHSUM.

1. *General.*—The river SALWEEN at this crossing flows through a deep valley with heavily wooded precipitous sides rising to 6,000 ft. on both sides. TA MANHSUM village lies 200 yds. SOUTH of the ferry site on the EAST bank, and the villagers are the traditional workers of the ferry. The EAST bank is fairly open, but the approach to the WEST bank is very steep, and the nearest village is MAN BEIN HPE, 1,200 ft.

above the river. The track from this village to the ferry is a mile in length and very steep with a clay surface. It has recently been improved and is always passable for mule transport.

2. *Ferry*.—The river had fallen from a width of 460 ft. to 410 ft. in the 17 days the reconnaissance was EAST of the river. The height is said to vary as much as 60 ft. between dry weather and high flood level. The current in midstream was 5 to 6 m.p.h. and was extremely turbulent, with whirls and eddies. The banks are rocky, but with occasional bays of sand between the rocks. These bays are used as landing stages and are changed according to the height of the river.

3. *Rafting*.—Two rafts are available about 15 ft. long \times 12 ft. wide. These rafts are normally handled by 12 paddlers and 2 steersmen, each. The capacity of each raft is—

nine Chinese mules without loads and 4 men, or 48 to 120 lbs. mule loads, or 30 armed men;

A useful average load was found to be—

six Chinese mules;

six mule loads taken off the mules but left on the side frames;

six men.

The column of 73 men, 79 animals, and 77 mule loads was ferried across in 4 hours. The average time per round trip including crossing both ways, loading and unloading, was 15 minutes. It would be safer to work on a figure of 20 minutes per round trip per boat to allow for contingencies, breakage of creeper ropes, misjudgment of crossing etc. This time depends largely on the height of the river. The place and method of crossing are varied as the height of the river and the shape of the banks vary, and the time of crossing will vary correspondingly.

These rafts are paddled by means of bamboos 6 ft. long with an effective paddle area of only $\frac{1}{2}$ sq. ft. The ropes and breast lines for coming ashore, towing, and mooring consist only of lengths of creeper which are always parting.

If the villagers can be persuaded to use them, the efficiency of the ferry would be greatly increased if 30 ft. paddles (Canadian canoe pattern) could be obtained. Alternatively arrangements could be made for making better paddles on the site if tools were sent up for this purpose. At present there are no carpenter's tools of any sort in the district.

4. *Safety*.—(a) All mules must have their loads and saddles removed before crossing.

(b) Men must remove their equipment before crossing.

5. *Flying Bridge*.—If it were considered necessary the establishment of a flying bridge should present no great difficulty. There is a possible site 130 yds. above the usual ferry landing stages where a wire rope could be placed which would allow of these stages being used by the flying raft. The anchorage on the EAST bank would be easy to establish on a small knoll at present under *taungya* cultivation, in which is a small hut. The WEST bank anchorage would have to be a rock anchorage cut out of a very steep hill side, a possible site being a point where the track passes a prominent large dark green tree on the same level as the hut on the EAST bank. These anchorages are high enough above H.F.L. to do away with the necessity of any but the smallest of trestles.

NOTE "B".

REPORT ON FERRY CROSSING AT TA MANHSUM.

1. *Rafts*.—When the 1st echelon, B.B.C. ESCORT crossed the SALWEEN on 7th and 8th December 1936, there were only two rafts available for use. If improvements were made at the crossing points on either side of the river it would be possible to run 3 or 4 rafts altogether. In the actual handling of the rafts little improvement can be made. The local Shan boatmen have their own methods; even when they were provided with longer ropes for pulling their rafts upstream at either side, they cut them to a much smaller size after a few days.

2. *Banks*.—(a) West Bank. At the crossing point the bank is sandy, shelving steeply into the river. North of this it is too steep and rocky for embarking, and downstream there is a smoother sand-bank but the approach to this is difficult. At present there is no definite abutment marked out for embarking on to the rafts. The result was that Government mules were coaxed with great difficulty to step on the raft, and had to jump a gap of 3 ft. from the bank. It would facilitate embarking if a level bank seat 30 ft. in length and 20 ft. in width were made with a timber revetment at the water's edge. A bamboo mat surface, similar to that on the rafts, would also help in stacking loads. This would only be in the nature of a temporary landing place at the time when large convoys are crossing. Estimated time for construction:—20 men working for 5 days, only local materials required.

(b) East Bank. The bank is much more rocky on the east side and there is only one point where disembarkation is possible. At present it is difficult to unload, as all loads have to be manhandled over rocks at the water's edge. If a small landing stage of bamboo were erected at this place it would enable the raft to be unloaded quickly and easily.

On both banks it would help if paths or stepping stones could be made on the upstream sides of the landing stages for hauling the rafts upstream before crossing.

3. *Approaches*.—(a) West Bank. Little improvement can be made without blasting and an enormous amount of work in clearing and levelling. As a temporary measure the line of approach could be marked out clearly and definite places for stacking stores railed off. It would then be possible for Chinese mules to leave the shore immediately after unloading without causing congestion.

(b) East Bank. The path from the landing place on this side is much wider and with a rocky surface instead of loose sand. Here the approach to the crossing point could be improved with small stones; areas for stacking loads could be marked off so as to leave a line of traffic.

4. *Conclusion*.—All the measures suggested for improving the banks at the crossing points would be temporary for the non-rainy season. If a permanent method of crossing, such as a flying bridge were made, the cable could be anchored in rock further upstream. But in this case, stronger rafts would be required.

NOTE "C".

NOTES ON THE WORKING OF THE TA MANHSUM FERRY.

1. The extra 14 men are essential as relief to the other 28 ferrymen. They should be used for all columns containing troops and when convoys are passing over with their mules.

2. Rope is essential for pulling the rafts upstream.

3. No convoys or columns of the sizes which came over this year need take more than 2 days, *i.e.*, one day on arrival, one full day, and march off the 3rd day with the exception of the 1st convoy P.S.I. which had 530 mules, 2 officers and many followers.

4. No units can camp on the west side although convoys with only Chinese muleteers can do so. The only possible site is sandy, rocky and dirty, and quite unsuitable for troops.

5. Owing to the restriction of space in the camping ground it would be better if columns did not march into camp on the day the former column marched out. The time allowed to clear up the camp is hardly adequate. I would suggest one clear day is allowed between the arrival of each column.

6. Maintenance columns both Army and B.F.F. should not arrive on the same day as columns with troops. There is no room for both on the west bank and one or other has to sit idle on the day they arrive as the ferry cannot deal with both at the same time.

7. I would suggest that maintenance columns in future are fitted in to arrive on the clear days between the arrival of each column (reference paragraph 5).

8. The Officer-in-charge ferry should always hold the pay for the ferry-men and any other local coolies. This gives the officer a hold over them and ensures a certain amount of discipline.

9. From the practical experience of this year the following is the quickest method to get a column containing troops across the river and into camp in one day :—

(a) A small loading party on west bank.

(b) A large unloading and carrying party on the east bank.

(c) Send over loads first on every 4th or 5th raft some mules.

The party on the eastbank unload from raft and load up on the mules and escort the mules straight into camp and bring the mules back to get other loads.

After a few trips these mules must be allowed to go in order to graze and other mules, by now across, take their place.

The Drabhis will object to this method as they say that the saddles do not fit unless their own one is put on the mule; this is common sense for a full march but does not matter for a distance of 400 to 600 yds.

When all loads are over, the remaining mules can come across the next day.

Government mules should march early and they and their equipment should be got over before the Chinese contractors' mules arrive.

NOTE ON FERRY CROSSING AT MAN PANG POI.

1. *General.*—The river NAM PANG flows in a narrow valley with wooded sides rising 2,500 ft. above the river on the SOUTH bank and 1,000 above it on the NORTH bank. The tracks leading to the crossing on either side zig-zag down to the river at gradients of 1/5 to 1/6. The village of MAN PANG POI consists only of 3 houses which stand on a spur of the hills overlooking the crossing. On the NORTH bank there are the villages of WAN PANGHSANG, two miles away on the top of the hill overlooking the crossing, and WAN KAUNGHKA, one mile along the track to WAN PANGHSANG.

2. *Crossing.*—At the crossing the river is 120 ft. wide and flows at 4 to 5 m.p.h. It is said to be 20 ft. deep now at this site. A ford exists $\frac{1}{4}$ mile further downstream, where the river widens to 150 ft. but this is

passable only in the dry weather, when the depth is stated to be 2 ft. 6 ins. At present the ford is 4 ft. deep. It is difficult to negotiate as the bottom is stated to be covered with boulders, and the shallowest part zig-zags across the river bed.

There are 2 dugouts available 33 ft. long \times 2 ft. wide.

3. *Bridge*.—A very interesting temporary bridge had just been completed to take the reconnaissance party across the river.

This bridge is built entirely from bamboo and creepers and is a floating bridge anchored by ropes stretched across the bridge site. 2,713 bamboos were used in its construction. It is 120 ft. between shore bays and has a 10 ft. roadway. The floats are bunches of large bamboos 18 ft. \times 9 ins. circumference. There are spaced in 9 large bundles along the bridge, except that in the centre where the current is strongest, a waterway of 15 ft. has been left under which are only 3 single bamboos.

On these floating bundles 9 inch bamboos have been laid as a flooring 10 ft. wide lengthwise along the bridge. On this again is a "WAGAT" (i.e., large bamboos, split, laid flat, and woven into a mat) decking fastened by single bamboos wheelguides and supporting a very light openwork handrail 4 ft. wide.

This bridge is anchored by means of ropes made of woven bamboos stretched across the bridge site. There are 3 (two 10 ins. and one 7 ins.) on the upstream side of the bridge and two (one 8 ins. and one 6 ins.) on the downstream side. These ropes have a vertical dip of 5 ft. and also a lateral deflection due to the current. The upstream anchorage ropes support the bridge by means of thin creeper 1 in. rope—stays at frequent intervals fastened on to a line of bamboos, through the length of the bridge, which are again fastened to the floating bundles. This line of bamboos is at water-level and forms a considerable resistance to the current which forces the bridge to assume a lateral deflection amounting to 8 ft. in the centre.

On the NORTH bank each set of upstream and downstream anchorage ropes is fastened to a long 8 ins. diameter spar dug 20 ft. vertically into the bank, with its top anchored back to a tree. On the SOUTH bank each rope is fastened to a form of log anchorage in which the log to which the rope is made fast is capable of rotation by means of hand spikes which fit into slots cut into the log. In this way each rope can be tensioned separately.

A controlled crossing was made in which only four laden Chinese mules were allowed on the bridge at a time. This exerted no undue strain on the bridge and I consider this load might be doubled. At the same time control is essential, and if possible a muleteer should go across with each section of mules crossing, as otherwise they tend to halt and bunch in the centre of the bridge.

4. *Construction*.—The bridge took 46 men 21 days to build, but the builders could give no estimate of the time taken to build up the bamboo ropes beyond saying that this was the longest and most difficult part of the job and took the greatest number of bamboos. They also state that a new bamboo rope is not as strong as a seasoned one, and that these ropes will have to be strengthened in December. If this is done the bridge should stand till the rise of the river in the rains when the bridge is certain to be carried away. The Assistant Superintendent, MONGYAI gave me to understand that the strengthening of the ropes has already been arranged for.

NOTE ON FERRY CROSSING AT PANGHSANG.

1. *General*.—This river at this point is the boundary between MON-GLON (British) and MONGLEM (Chinese) States. Through the PANGHSANG valley it forms a double S. bend. On the WEST side the banks are 15 to 20 ft. high and behind them is a large hollow in the hills $\frac{3}{4}$ mile wide \times $\frac{1}{4}$ mile deep. This area contains a number of small villages and a large area under wet paddy cultivation. On the EAST side above the river bank there is a fairly steep rise into the foothills.

2. *Ferry*.—From PANGHSANG village and camp the track continues EAST for $\frac{3}{4}$ mile until it descends to the river at WAN PANGLONG. The river here is about 230 ft. wide and 10 ft. deep and flows at 3 m.p.h.

There are 4 dugouts at this ferry, the average size being 35 ft. long \times 2 ft. wide. Two of these boats belong to MANGLONG and two to MONGLEM.

3. *Ford*.—About 1 mile NORTH OF PANGHSANG there is stated to be a dry weather ford between WAN HSUNMAWN and WAN TA HPUN. When visited, the river at this site was 300 ft. wide and 7 ft. deep with a sandy bottom. The villagers state that the river drops here to a depth of 3 ft. and sometimes less in the dry season.

4. *Bridge*.—In the stretch of river with the S. bends below WAN HSUNMAWN there are several gravel banks in the stream. The local inhabitants state that when the river falls, they occasionally put down long bamboos between these banks and on them can cross dry-shod. They also state that during the wet season any bridge, however solidly constructed by them, would be carried away.

5. *Crossing*.—In the dry weather the crossing of the NAM HKA presents no difficulty. If time were available, a dry weather temporary bamboo bridge could be constructed, or any mobile force could cross immediately by a combination of ferry and ford.

In the monsoon season the crossing would be a much longer process, as, although mules can easily be swum across, all loads have to be ferried.

A further consideration is the fact that this river is a boundary and that the utilization of Chinese boats or the construction of a bridge into Chinese territory would have to be considered with regard to its effect on our political relations with the Chinese.

NOTE.—A temporary bridge was constructed in October 1936 over this river.

Scale, 1 inch = 10 miles

Latitude	Longitude	Altitude	Notes
34° 15' N	118° 15' W	1000	Top of mountain
34° 10' N	118° 10' W	800	Base of mountain
34° 05' N	118° 05' W	600	Base of mountain
34° 00' N	118° 00' W	400	Base of mountain
33° 55' N	117° 55' W	200	Base of mountain
33° 50' N	117° 50' W	100	Base of mountain
33° 45' N	117° 45' W	50	Base of mountain
33° 40' N	117° 40' W	20	Base of mountain
33° 35' N	117° 35' W	10	Base of mountain
33° 30' N	117° 30' W	5	Base of mountain
33° 25' N	117° 25' W	2	Base of mountain
33° 20' N	117° 20' W	1	Base of mountain
33° 15' N	117° 15' W	0	Base of mountain
33° 10' N	117° 10' W	0	Base of mountain
33° 05' N	117° 05' W	0	Base of mountain
33° 00' N	117° 00' W	0	Base of mountain
32° 55' N	116° 55' W	0	Base of mountain
32° 50' N	116° 50' W	0	Base of mountain
32° 45' N	116° 45' W	0	Base of mountain
32° 40' N	116° 40' W	0	Base of mountain
32° 35' N	116° 35' W	0	Base of mountain
32° 30' N	116° 30' W	0	Base of mountain
32° 25' N	116° 25' W	0	Base of mountain
32° 20' N	116° 20' W	0	Base of mountain
32° 15' N	116° 15' W	0	Base of mountain
32° 10' N	116° 10' W	0	Base of mountain
32° 05' N	116° 05' W	0	Base of mountain
32° 00' N	116° 00' W	0	Base of mountain
31° 55' N	115° 55' W	0	Base of mountain
31° 50' N	115° 50' W	0	Base of mountain
31° 45' N	115° 45' W	0	Base of mountain
31° 40' N	115° 40' W	0	Base of mountain
31° 35' N	115° 35' W	0	Base of mountain
31° 30' N	115° 30' W	0	Base of mountain
31° 25' N	115° 25' W	0	Base of mountain
31° 20' N	115° 20' W	0	Base of mountain
31° 15' N	115° 15' W	0	Base of mountain
31° 10' N	115° 10' W	0	Base of mountain
31° 05' N	115° 05' W	0	Base of mountain
31° 00' N	115° 00' W	0	Base of mountain
30° 55' N	114° 55' W	0	Base of mountain
30° 50' N	114° 50' W	0	Base of mountain
30° 45' N	114° 45' W	0	Base of mountain
30° 40' N	114° 40' W	0	Base of mountain
30° 35' N	114° 35' W	0	Base of mountain
30° 30' N	114° 30' W	0	Base of mountain
30° 25' N	114° 25' W	0	Base of mountain
30° 20' N	114° 20' W	0	Base of mountain
30° 15' N	114° 15' W	0	Base of mountain
30° 10' N	114° 10' W	0	Base of mountain
30° 05' N	114° 05' W	0	Base of mountain
30° 00' N	114° 00' W	0	Base of mountain
29° 55' N	113° 55' W	0	Base of mountain
29° 50' N	113° 50' W	0	Base of mountain
29° 45' N	113° 45' W	0	Base of mountain
29° 40' N	113° 40' W	0	Base of mountain
29° 35' N	113° 35' W	0	Base of mountain
29° 30' N	113° 30' W	0	Base of mountain
29° 25' N	113° 25' W	0	Base of mountain
29° 20' N	113° 20' W	0	Base of mountain
29° 15' N	113° 15' W	0	Base of mountain
29° 10' N	113° 10' W	0	Base of mountain
29° 05' N	113° 05' W	0	Base of mountain
29° 00' N	113° 00' W	0	Base of mountain
28° 55' N	112° 55' W	0	Base of mountain
28° 50' N	112° 50' W	0	Base of mountain
28° 45' N	112° 45' W	0	Base of mountain
28° 40' N	112° 40' W	0	Base of mountain
28° 35' N	112° 35' W	0	Base of mountain
28° 30' N	112° 30' W	0	Base of mountain
28° 25' N	112° 25' W	0	Base of mountain
28° 20' N	112° 20' W	0	Base of mountain
28° 15' N	112° 15' W	0	Base of mountain
28° 10' N	112° 10' W	0	Base of mountain
28° 05' N	112° 05' W	0	Base of mountain
28° 00' N	112° 00' W	0	Base of mountain
27° 55' N	111° 55' W	0	Base of mountain
27°			

NOTE.

The numbers of the Survey of India (MILWA) sheets are those that — (98)
The letters A, B etc. denote the Degree or Inch — 4 miles sheet.

The boundary between Burma & the Mla States cannot be shown as if
it is still under consideration